CA-Deliver™ for OS/390 & z/OS

Getting Started

1.7

Computer Associates™

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Chapter 1

Introduction

Welcome to CA-Deliver, a document management tool that provides automated distribution of documents created in the mainframe.

What's in This Guide?

This guide is organized into the following chapters:

Chapter 1, "Introduction" describes how to use this guide.

Chapter 2, "Welcome to CA-Deliver" provides an overview of the installation process and explains the major operations performed by SMP/E.

Chapter 3, "System Requirements" describes the prerequisite CA Common Services and specifies system requirements for installing and running CA-Deliver.

Chapter 4, "Installation Materials" lists the materials supplied with CA-Deliver, and details the contents of the installation tape.

Chapter 5, "Installing CA-Deliver" provides a list of installation steps and describes the JCL upgrades and CA Common Services considerations.

Chapter 6, "Installing CA-Deliver Online Interfaces" describes the online interface options, the cross-memory drivers, and how to install and/or setup the online interfaces for CA-Deliver.

Chapter 7, "Installing CA-Deliver Features" provides instructions for changing the date format on panels, setting up the CA-11 interface, setting up CA-11 to run with CA-Deliver, installing the CA-Deliver host command environment into CA-GSS (global subsystem), and describes the CA-GSS interface.

Appendix A, "Installation Worksheets" provides a series of worksheets to help organize the information required to install CA-Deliver.

Who Should Read This Guide?

This guide is targeted to the MVS system administrator who will install, use, and maintain CA-Deliver.

This guide assumes you are familiar with IBM computer system terms and concepts. You should also have a working knowledge of the MVS operating system, JES, and JCL conventions and terminology.

Product Documentation

The following publications are supplied with CA-Deliver 1.7:

- *CA-Deliver Getting Started*
- *CA-Deliver Administrator Guide*
- *CA-Deliver Reference Guide*

Contacting Technical Support

Technical support is available 24 hours a day, 7 days a week.

For technical assistance with CA-Deliver, contact Computer Associates Technical Support at http://esupport.ca.com.

Conventions Used in This Guide

This section explains the conventions used to present information in this guide. We recommend that you take the time to familiarize yourself with these conventions.

Commands and Parameters

Commands and parameters are shown in `this font`. You enter these examples in CA-Deliver exactly as shown.

Variables

Italic text shown with a command indicates a user-defined variable. For example, in place of the variable *printer-id.data,* you might enter VPS.JESDS.

Commands

Commands you can issue via the online facility are represented by uppercase letters, for example:

- HELP
- SELECT
- MM

The word Enter represents the key marked on your keyboard as follows:

- ENTER, Enter, or enter
- RETURN, Return, or return
- ↵

PF Keys

Programmable function keys, or PF keys, are represented by the uppercase letters PF followed by one or two digits:

- PF1
- PF12

Note: On most keyboards, PF keys are located either at the top or to the right of the main part of the keyboard. PF keys are usually marked PF or simply F followed by 1–2 digits, for example, PF1 or F12.

New Features and Enhancements in This Release

CA-Deliver 1.7 contains many enhancements, which make the online administration of reports easier and faster. Some of these new features for Release 1.7 are as follows:

SORT command for display list data. This allows you to sort by any field on the following display panels:

- Active Report List (Primary and Alternate) panels
- Active Bundle List (Primary and Alternate) panels
- Bundle Selection List panel
- Bundle Distribution Specifications panel
- Bundle Report Specifications panel
- Distribution Selection List panel
- Job Selection List panel
- Report Selection List panel
- Report Distribution Specifications panel
- Report Xref for Distid panel

When a display panel is sorted, the number of rows in the table will appear in the message area at the top right corner of the display.

Filtering of selection list data to restrict lists to just the set of data you need. Filtering fields are supported on several selection list panels to refine or restrict the number of entries displayed in a list. Filtering is available on the following panels:

- Active Report List (Primary and Alternate) panels
- Active Bundle List (Primary and Alternate) panels
- Bundle Selection List panel
- Distribution Selection List panel
- Job Selection List panel
- Report Selection List panel

4-digit years on all online panels. Online panels and batch reports that contain a date now display a 4-digit year. CA-Deliver also supports eight date formats:

- MM/DD/YYYY (default)
- DD/MM/YYYY
- YYYY/MM/DD
- YYYY/DD/MM
- MM/DD/YY
- DD/MM/YY
- YY/MM/DD
- YY/DD/MM

COPY command enhanced to copy all of the data under a job. With the COPY command, you no longer have to copy each individual report. The COPY command, copy tabular command, and repeat tabular command have been enhanced on the Reports for Job panel to copy all of the report definition data when the copied or repeated report identifier reference is renamed.

The COPY command has additional parameters to allow automatic renaming of the report identifier names when the job data is copied.

Automatic copy facility. For panels that support copying of data into a table, the previously required after (A) or before (B) tabular command is not required if the data is copied into an empty table.

FIND command support. The FIND command is now available on the following panels:

- Bundle Distribution Specifications panel
- Bundle Report Specifications panel
- Reports for Job panel
- Report Distribution Specifications panel

For panels that support the SORT command, the FIND command locates data based on the first or only sort field.

Distribution Lists to make report distribution easier. You can now have multiple distribution points defined to a single Distid.

Distribution specifications, similar to the Report Distribution Specifications panel, can now be defined to a distribution list. This facility allows distribution specifications to be defined externally from the report definition and shared across multiple reports.

Distribution Lists contain a Distribution Identifier display. A display containing the distribution lists that a distribution identifier has been defined to can be obtained from the Distribution Selection List panel via the SL tabular command.

The new Distribution Lists with Distid panel displays the distribution list name, destination, external writer, copies, output indicator, CA-View logical view restriction indicator, CA-View delete restriction indicator, and CA-View reprint restriction indicator.

The output and viewing requirements defined in the distribution list for a distribution identifier can be changed, added, or deleted.

REDISPLAY command extended to more panels. The REDISP command, which can be specified as RED, REFRESH, or REF, is now available on the following panels:

- Bundle Selection List panel
- Distribution Selection List panel
- Job Selection List panel
- Report Selection List panel

Automatic selection based on cursor position on many panels. An entry can be automatically selected by placing the cursor on the desired line and pressing the Enter key. This type of selection is equivalent to an S tabular command.

The automatic selection feature is available on the following panels:

- Primary Selection Menu panel
- Bundle Selection List panel
- Bundle Distribution Specifications panel
- Bundle Report Specifications panel
- Distribution Selection List panel
- Job Selection List panel
- Reports for Job panel
- Report Selection List panel
- Report Distribution Specifications panel
- Report Xref for Distid panel

Multiple internal security tables. This allows you to run many CA-Deliver tasks with individualized security tables. You should define only one table per database.

External security interface. This allows you to have CA-Deliver make calls to an external security manager by specifying a CA-Deliver initialization parameter, rather than using its own internal security table.

Report Description added on Bundle Report Specifications panel. The report description displays to the right of the report identifier on the Bundle Report Specifications panel.

First address line added on the Bundle Distribution Specifications panel. The first address line displays to the right of the distribution identifier on the Bundle Distribution Specifications panel.

Four-character selection codes internally supported. Four-character selection codes are supported on display lists that support the edit tabular commands that are used to copy, delete, move, repeat, and insert entries.

The actual panels, as distributed, still contain a two character selection code so display data will not be lost. The panels, however, can be modified at the client's discretion to provide a larger selection code field.

Enhanced Active Reports/Bundle command. A specific or generic identifier can be specified on the "A" command from the Primary Selection Menu. This identifier is used as filtering criteria to refine the Active Report or Bundle List.

Inactivate force command added to various panels. The "UF" tabular command has been added to the following panels:

- Job Selection List panel
- Reports for Job panel
- Report Selection List panel

J selection command changed. The J selection code, which is supported on the Active Report List and Report Selection List panels, now positions the Reports for Job panel at the selected report identifier in the list.

z/OS 1.2 JOBID changed. In z/OS Version 1 Release 2, IBM changed job identifiers from three letters followed by five numbers to one letter followed by seven numbers. CA-Deliver 1.7 supports this change.

Bundle display from Report Definition. A list of bundles can be displayed and maintained from the Report Definition Attributes panel. A new primary command (B) has been added to the Report Definition Attributes panels to access the bundle list.

Report display from Distribution Selection List. A list of reports defined to a distribution list can be obtained from the Distribution Selection List or Distribution Lists with Distid panels via the SR tabular command.

The new report list displays the report identifier, destination, external writer, copies, output indicator, CA-View logical view restriction indicator, CA-View delete restriction indicator, and CA-View reprint restriction indicator.

The output and viewing requirements for the reports can be changed, added, or deleted.

External writer added to various panels. An external writer identification has been added to the following panels:

- Report Definition Distribution Specifications Panel
- Distribution Data Panel
- New Distribution List Distribution Specifications Panel

CA-Connect destination identification. The distribution data panel has been changed to allow designation to a CA-Connect destination.

Previously, a CA-Connect destination was identified by placing "PREVAIL/XP-CONNECT" in the first address line of the distribution identifier. A new field has been added to the panel to make that designation. The database conversion process will recognize and appropriately convert the old form of designation.

Full page text search. The Report Definition Text Specification panel has been changed to allow a full page text search.

The line field on the Report Definition Text Specification panel now allows you to specify an asterisk (*) to search all lines on a page (up to a maximum of 255 lines).

Accordingly, the column field specification has been changed to allow you to specify an asterisk (*) to search all the columns on a line instead of the previous specification of a blank.

No IPLs. When maintenance was applied to certain CSA modules on prior releases of the product, an IPL of the MVS system was required to activate the maintenance. The CA-Deliver started task now has a new "REFRESH" start up parameter that can be used to reload static CSA modules.

Enhanced Recoverability. The CA-Deliver started task has been enhanced to recognize and respond to abends of the process request subtask, checkpoint subtask, history detail subtask, and network input subtask.

Also, the CA-Deliver request queue will be validated and recovered, if necessary, when the CA-Deliver started task is started.

SAPI Support. The network input subtask of the CA-Deliver started task now supports the new IBM SAPI interface instead of the old IBM PSO interface for selecting SYSOUT datasets from JES.

The IBM SAPI interface allows retrieval of output statement information for a SYSOUT data set. The IBM SAPI provides a standardized interface for both JES2 and JES3.

With the SAPI interface, SYSOUT datasets from jobs or DD statements that are not defined to the CA-Deliver database will be requeued to the new class, destination, and forms specified on the NETCLSL, NETDEST, and NETFORM initialization parameters. The same occurs for reports defined as MONITOR. These requeued SYSOUT datasets will retain their original job name and job identifier. If an error occurs while requeuing the SYSOUT dataset, a RMOPS208 message will be generated, and the SYSOUT dataset will be placed in a hold status. Basic, stacked, interleaved, and control reports will be produced under the CA-Deliver started task and retain the name of the CA-Deliver started task name. UNDEF reports will only be generated for stacked reports.

Reduced Below-the-line Storage. With prior releases of CA-Deliver, 696 bytes of below-the-line storage was needed for each recipient of a report. If 1000 stacked reports are defined for a DD statement with 10 recipients each, 7 meg (1000 x 10 x 696) of below-the-line storage was needed. The new release now uses only 168 bytes of below-the-line storage for each recipient when the report is being produced.

In other words, the below-the-line storage is used only when the page selection text (text specifications) has matched for a report. Direct to View archival reports no longer require additional below-the-line storage.

Checkpoint File Blocks Recovered. With prior releases of CA-Deliver, CRJ and CRB blocks were never returned to the free chain. The new release now frees all blocks.

Deletion of output statements. During the distribution process, CA-Deliver allocates output statements to properly distribute reports to recipients. Previously, these created output statements were not deleted and could cause serious problems with the CA-Deliver started task.

The network input task and bundle output task are long running subtasks of the CA-Deliver started task. Both of these tasks create output statements to distribute reports or bundles. Since the output statements are not deleted, SWA control block storage can be exhausted and cause the CA-Deliver started task to abend with a S878 abend.

The new release now deletes output statements after sysout data sets are allocated for a report.

Stacked Report Performance. Basic history data was previously created when the DD statement for a series of stacked reports was opened. Basic history data for stacked reports that did not have any selectable pages will contain null history entries with no lines, pages, or queued date.

The new release produces basic history data for a report when the page selection text (text specifications) is matched to a page of data. Basic history data will not be generated if no page data is matched. The intent of this enhancement is to reduce the overall number of database I/Os performed by the CA-Deliver started task, thus increasing the overall performance and throughput of started task.

This streamlined performance only applies to sites that are not recording history detail data.

RMOPARMS. BAL, BALSEL, BALOFFPW, and BALSEP and BALDEC are obsolete and must be removed from RMOPARMS.

Batch utilities changes. The database build utility (RMODBB) has been enhanced with the ability to define and maintain the new distribution list records. You can also use RMODBB to assign a bundle wait for late time indication, report distribution external writer, distribution external writer, CA-Connect destination designation, and to sort the report distribution specifications, distribution list specifications, bundle report specifications, and bundle distribution specifications.

The general report writer (RMOGRW) has been enhanced to print or output the new distribution list records. You can also use RMOGRW to print or output the bundle wait for late time indication, bundle remaining interval time, bundle active count, bundle pending count, bundle ready count, reports bundled count, report distribution external writer, distribution external writer, and CA-Connect destination designation.

The internal date format for RMOGRW has changed to a binary number of days since 1900 to resolve date calculation, such as CDATE-3. The printing format of date fields is now based on the default date format which may alter the format of existing reports. The EDIT function has also been enhanced to allow formatting of a four-digit year.

Optimized delete of distribution identifiers. Cross-reference records are now utilized to streamline the removal of distribution references from report and bundle records when a distribution record is deleted as opposed to sequentially reading and scanning all report and bundle records.

Common component upgraded. The EBC Common Component has been upgraded to Release 2.3. If you are running cross-memory (XMS) regions with CA-View and CA-Deliver combined, you should upgrade these regions to use the latest release of the EBC code.

Before Upgrading from Releases 5.1 and 1.6. Upgrade considerations from Releases 5.1 and 1.6 are discussed in Step 24 in the chapter "Installing CA-Deliver." Do **not** bring up CA-Deliver 1.7 without reviewing this step.

Chapter 2

Welcome to CA-Deliver

This chapter presents an overview of the CA-Deliver installation process, and explains the major operations that are performed during installation.

CA-Deliver requires CAIRIM (a component of CA Common Services) and installs under System Modification Program/Extended (SMP/E).

Overview of the CA-Deliver Installation Process

Before you install CA-Deliver, you must prepare your system, assemble your materials, then follow the installation steps exactly and in order. Use the following list as a guide for the installation process.

1. Be sure that CA Common Services is installed on your system, and that the required hardware, software, and libraries are prepared.

   CA-Deliver uses the CAI Resource Initialization Manager (CAIRIM) portion of the CA Common Services. CAIRIM prepares the operating system for Computer Associates products and components, then executes them. For more information, see the chapter "System Requirements."

2. Assemble the installation materials.

   The machine-readable program materials required for installation are distributed as a multi-file installation tape in SMP format. For more information about the tape and the files it contains, see the chapter "Installation Materials."

3. Install CA-Deliver.

   Load all necessary data sets and information to your system from the distribution tape supplied by Computer Associates. For a detailed list of the steps all users must perform, see the chapter "Installing CA-Deliver."

4. Use options and initialization parameters to customize CA-Deliver according to the needs of your site, as follows:

   - Install the online interfaces including the cross-memory and online retrieval options for ISPF, TSO, VTAM, CA-Roscoe, CICS, and IMS.

     For more information, see the chapter "Installing CA-Deliver Online Interfaces."

   - Install CA-Deliver features including the GSS (Global Subsystem) interface, and setup the CA-11 interface.

     For more information, see the chapter "Installing CA-Deliver Features."

Installing Under SMP/E

SMP/E is used to perform product installation, tailoring, and maintenance. The following section describes the primary SMP/E operations that must be performed in order to install CA-Deliver.

Major SMP/E Operations

RECEIVE, APPLY, and ACCEPT are the three major operations that are performed by SMP/E when a product is being installed or maintained. These operations manage a structure wherein a given product is present in two places: distribution libraries and target system libraries. The distribution libraries are only used for maintenance operations; the product executes from the target system libraries.

The operations performed are as follows:

Operation	Description
RECEIVE processing	SMP loads the installation tape into temporary data sets If an error is detected, or you want to stop the process at this point, a REJECT operation can be run to reverse any actions performed during RECEIVE processing.
APPLY processing	SMP performs the operations dictated by the modification control statements (MCS), and updates the target system libraries The user can then test the modification. If the installation is to be aborted at this point, a RESTORE operation can be run to restore the system libraries from the distribution libraries.
ACCEPT processing	Permanently places the modification in the distribution libraries

Important! *Once you run ACCEPT, there is no direct way to undo the modification.*

Chapter

3

System Requirements

This chapter explains the requirements for installing and running CA-Deliver, including the following topics:

- CA Common Services
- Hardware requirements
- Software requirements
- Library authorization
- SVC dump data sets
- JCL procedures

CA Common Services

CA-Deliver uses CA Common Services, an initialization program that prepares the operating system for Computer Associates products and components, then executes them.

CA Common Services must be installed or maintained at the genlevel indicated on the CA-Deliver cover letter before you can use the CAIRIM component. See the *CA Common Services Getting Started* guide for more information.

CAIRIM

CAIRIM is the common driver for a collection of dynamic initialization routines that eliminate the need for user SVCs, SMF exits, subsystems, and other installation requirements commonly encountered when installing systems software. CAIRIM prepares the operating system for Computer Associates products and components, then executes them.

CAIRIM does the following:

- Obtains SMF data
- Verifies proper software installation
- Installs MVS interfaces
- Automatically starts Computer Associates and other vendor products
- Provides proper timing and order of initialization

Note: CA-Deliver requires CAIRIM to run the required CA LMP.

CA LMP

The CA License Management Program (CA LMP) is a standardized, automated approach to track licensed software using common realtime enforcement software to validate the user's configuration. CA LMP reports on activities related to the license, usage, and financial activity of program solutions. CA LMP features include:

- A common key data set that can be shared among many CPUs
- The use of *check digits* to detect errors in transcribing key information
- Execution keys that can be entered without affecting any Computer Associates software solution already running
- No special maintenance requirements

Installing CA Common Services

If CA Common Services has not been installed on your system, you must do so before proceeding with this installation. See your cover letter and the *CA Common Services Getting Started* guide for detailed instructions.

Hardware Requirements

Use the tables in this section to estimate the storage required for the target libraries, the distribution libraries, and the EBC (Extended Base Component) library required by CA-Deliver.

Target Libraries

The following table lists the amount of disk space needed to install the CA-Deliver target libraries:

Library Name	Blksize	Blocks	Dir Blks	Description
CAI.CAILIB	6144	2500	120	Common load library
CAI.CAIPROC	3120	300	10	Common procedure library
CAI.PPOPTION	3120	300	40	Common options library
CAI.CAISRC	3120	150	10	Common source library
CAI.CAIMAC	3120	1500	75	Common macro library
CAI.CAICLIB	3120	300	10	Common CLIST library
CAI.CAIISPP	3120	1500	75	Common ISPF panels library
CAI.CAIISPT	3120	20	5	Common ISPF table
CAI.CAIOLIBE	3120	450	85	Common online panels (English)
CAI.CAIMBP	3990	60	10	Common model banner page library

WARNING! *Do not reblock the libraries listed above – storage problems could occur.*

Distribution Libraries

The following table lists the amount of disk space for the distribution libraries needed to install CA-Deliver:

Library Name	Blksize	Blocks	Dir Blks	Description
CAI.DLVR.CHB17MLD	3120	1500	50	Macro library
CAI.DLVR.CHB17LLD	6144	1200	60	Load library
CAI.DLVR.CHB17ILD	3120	30	5	ISPF library
CAI.DLVR.CHB17BLD	1330	84	5	Model banner page library
CAI.JCOM.CZ270LLD	6144	200	25	CA-JCLCheck Load Library
CAI.JCOM.CZ270MLD	3120	760	20	CA-JCLCheck Macro Library

EBC Distribution Libraries

The following table lists the amount of disk space needed for the EBC Distribution libraries:

Library Name	Blksize	Blocks	Dir Blks	Description
CAI.EBC.CHC23MLD	3120	75	5	Macro library
CAI.EBC.CHC23LLD	6144	320	25	Load library
CAI.EBC.CHC23ILD	3120	30	5	ISPF library

Software Requirements

This section lists the CA-Deliver 1.7 component SYSMODs.

Common Component SYSMODs

SYSMOD	Description
CHC2300	EBC low-level drivers
CHC2301	EBC CICS drivers This is the CICS API common component.

CA-Deliver 1.7 Components

Component	Description
CHB1700	Product component

CA Common Services Component

Component	Description
CS91000	CAIRIM that supports CA LMP

CA-JCLCheck Common Component

Component	Description
CZ27000	CA-JCLCheck component The JCKCheck Common Component is used by the RMOJCS utility to populate the CA-Deliver database from a JCL library. RMOJCS performs the same processing as the original RMOJCL, but includes support for the most current changes in JCL. If you know that you will never need to run this utility, you do **not** need to install this component. However, you must tailor the select lists in the SMP RECEIVE, APPLY, and ACCEPT jobs.

Library Authorization

CA-Deliver and the EBC subsystem contain authorized programs. To run successfully, these programs must be executed from an authorized library. Computer Associates recommends that you authorize the CAI Common Load Library (CAILIB.)

Note: If other Computer Associates products have been installed, CAILIB may already be authorized.

To authorize the CAILIB library, modify the appropriate member IEAAPF*xx* in SYS1.PARMLIB to add an entry for CAILIB as follows:

```
CAI.CAILIB     xxxxxx,
```

Where CAI.CAILIB is the data set name for the CAI Common Load Library, and *xxxxxx* is the volume serial number on which it resides. An IPL may be necessary to complete the authorization.

SVC Dump Data Sets

CA-Deliver issues SVC dumps (SDUMP) for certain types of abends. These dumps are written to the MVS SYS1.DUMP*nn*. data sets. Contact your systems programmer to verify that the data sets are allocated with at least 100 cylinders.

Dump Analysis and Elimination

The CA-Deliver SDUMP program supports MVS dump analysis and elimination processing. This MVS feature eliminates the possibility of duplicate SVC dumps being written to the SYS1.DUMP*nn*. data sets.

To use this MVS feature, the SYS1.DAE data set must be allocated and the following parameter members must be updated in SYS1.PARMLIB:

```
IEACMDxx
SET DAE = xx
```

Where *xx* identifies the ADYSET.*xx*. member

```
ADYSETxx
DAE=START,RECORDS(SSS),SVCDUMP(MATCH,UPDATE,SUPPRESS)
```

Where *SSS* is the number of records in SYS1.DAE

System Dump Parameters

CA-Deliver allocates storage from MVS subpool 230.

In order for this storage area to be dumped correctly, the IEADMP.*xx*. member in SYS1.PARMLIB should contain the SDATA RGN parameter:

```
SDATA=(...,RGN,...)
```

The IEADMR.*xx*. member in SYS1.PARMLIB should contain the SDATA LSQA parameter:

```
SDATA=(...,LSQA,...)
```

Important! *If dump parameters are not specified as shown in the previous example, certain storage areas could be missing from dumps which may hinder support efforts.*

JCL Procedures

During product installation, CA-Deliver procedures are copied into CAIPROC, the CAI Common Procedure Library. These procedures are used later during normal execution of CA-Deliver.

Computer Associates recommends that the CAIPROC library be added to the system PROCLIB concatenation.

Chapter

4

Installation Materials

This chapter provides a list of the materials required for the installation and use of CA-Deliver.

CA-Deliver Installation Materials

- A standard label magnetic tape reel or cartridge containing the CA-Deliver SMP files

  This tape is referred to as the *product tape*. The Volser number is HB*yymm* (CA-Deliver, Genlevel year, and month). The tape contents are as follows:

  - DSN=CAI.SAMPJCL (file number 9)

    This unloaded PDS contains all of the sample JCL referred to in this document; it pertains to the installation and execution of CA-Deliver. Load via IEBCOPY.

  - DSN=SMPMCS (file number 32)

    This file contains the SMP modification control statements (MCS) used by SMP to install CA-Deliver.

  - Files beyond 32 are the SMP RELFILES that SMP will download to disk during RECEIVE processing.

- A complete set of documentation for CA-Deliver that explains how to install, customize, maintain, and use CA-Deliver

Chapter

5

Installing CA-Deliver

This chapter presents information about installing CA-Deliver for the first time, JCL upgrades, CA Common Services considerations, and CA-DRAS support for CA-Deliver.

To install CA-Deliver, load all necessary data sets and information into your system from the distribution tape supplied by Computer Associates. After CA-Deliver is installed, you can customize it with the online facility options provided. The date format on panels, batch reports, and the interface setup for CA-Deliver, CA-Rerun, and CA-11 are also discussed in this chapter.

CA Common Services Considerations

If CA Common Services has been installed at your site, you can skip this section.

CA Common Services is delivered separately and the documented prerequisite components (genlevel 9909 or higher) **must** be installed before you continue with this installation or attempt to execute CA-Deliver. CAIRIM is the only CA Common Services component required for CA-Deliver.

See your CA Common Services documentation for detailed information.

Be aware of the following:

- Your system must meet all of the requirements listed in the chapter "System Requirements."
- When you get to Step 21: Enter the LMP Code, supply the LMP code.

Note: Installation of CA Common Services is a standard SMP procedure.

CA-DRAS Agent Support

CA-Deliver 1.7 will provide support for CA-DRAS agents. CA-DRAS is required for cooperative viewing of CA-View reports from CA-DocView, CA-DocView/Web, or CA-DocServer.

Converting to Release 1.7 From Releases Prior to 5.1

There is no conversion utility to copy the checkpoint data from CA-Deliver releases prior to 5.1 to CA-Deliver Release 1.7. You must schedule the installation of Release 1.7 into production when all production processing has been completed and there are no reports with a status of BNDLWAIT or BNDLSEL on the Active Report List panel.

- Run the RMODBASE utility for the old release of CA-Deliver with the unload control statement.
- Continue with Step 9 after CA-Deliver 1.7 has been installed.

Data Set Requirements for Initialization Parameter Statements

Use the RMOPARMS DD statement to specify the name of the data set that contains the initialization parameter statements for the CA-Deliver started task.

The data sets for the CA-Deliver initialization parameter statements must:

- Be members in a partitioned data set
- Have a logical record length of 80 (LRECL=80)
- Have a block size of any multiple of 80 (for example, BLKSIZE=3200)
- Have record format FB (RECFM=FB)

Installation Steps

Before installing CA-Deliver, review the following list of installation steps, then use it as a checklist during the actual installation process:

Step 1: Photocopy the Installation Worksheets

Step 2: Load Installation Sample JCL (SAMPJCL) Library

Step 3: Allocate Libraries

Step 3a: Allocate Target and Distribution Libraries

Step 3b: Allocate Private SMP/E Libraries

Step 4: Customize the SMP Procedure

Step 5: RECEIVE the Services

Step 6: APPLY the Services

Step 1: Photocopy the Installation Worksheets

All users should perform this step.

Make a copy of the following worksheets in the appendix "Installation Worksheets" to prepare for installation:

- Initialization Parameter Worksheet

  As you go through the installation steps, fill in the parameter values required by those steps.

- CA-Deliver Started Task Worksheet

  As you go through the installation steps, you will list data set names to be used when you create the archival started task JCL.

When installation is complete, these worksheets will provide you with a record of the parameters, options, data set names, and so on used in this installation of CA-Deliver.

Step 2: Load Installation Sample JCL (SAMPJCL) Library

All users should perform this step.

CA-Deliver is installed via SMP/E. The tape received with this package is a standard label cartridge; it contains all of the data necessary to install CA-Deliver.

Before you install CA-Deliver, do the following:

1. Load the SAMPJCL (sample JCL) library from the tape.

   The DSN=CAI.SAMPJCL file is in IEBCOPY unloaded format and is the ninth file on the product tape.

2. Use the following JCL as a model to load the sample JCL library to DASD:

```
//LOAD     EXEC PGM=IEBCOPY,REGION=256K
//SYSPRINT DD   SYSOUT=A
//SYSUT1   DD   DISP=(OLD,KEEP),
//         DSN=CAI.SAMPJCL,
//         UNIT=CART,         <=== generic cartridge
//         VOL=SER=HByymm,            <=== Hbyymm (CA-Deliver,
gnlv yr,mn)
//         LABEL=(9,SL),                   (product tape)
//SYSUT2   DD   DISP=(NEW,CATLG,DELETE),
//         DSN=CAI.HB17.SAMPJCL,      <=== your DSN
//         UNIT=SYSDA,                <=== your generic DASD
//         VOL=SER=XXXXXX,            <=== permanent DASD
volser
//         SPACE=(3120,(400,20,20)),  <=== min space req'd
//         DCB=(LRECL=80,BLKSIZE=3120,RECFM=FB)
//SYSUT3   DD   UNIT=SYSDA,
//         SPACE=(CYL,(5,5))
//SYSUT4   DD   UNIT=SYSDA,
//         SPACE=(CYL,(5,5))
//SYSIN    DD   DUMMY
```

3. Customize the JCL members to reflect valid job statements, data set names, and unit and volume serial numbers.

   Important! *If you have a set of tailored SAMPJCL from an earlier release,* ***do not*** *put the later release JCL in the same data set.*

Step 3: Allocate Libraries

All users should perform this step.

This step is for new installations and upgrades of CA-Deliver. The tasks are presented in two substeps, as follows:

- Step 3a. allocates the target and distribution libraries.
- Step 3b. allocates the private SMP/E libraries.

Edit the appropriate member where necessary.

Step 3a: Allocate Target and Distribution Libraries

CAI.SAMPJCL member HB17ALC allocates all of the target and distribution libraries required by CA-Deliver during installation and maintenance.

If You Have More Than One Computer Associates Product

Many Computer Associates products have common components and common libraries that may already be installed. You must perform a careful analysis before allocating libraries so that you do **not** repeat installation steps that are already completed. See HB17ALC if you have questions about the substitutions performed for the installation procedure.

WARNING! *Never change any of the DDnames or the low-level qualifier of the data set names.*

- All space allocations are given in blocks to allow for compatibility between DASD types. The allocations given are the minimum required for installing CA-Deliver. You can adjust these values for your installation device types; be sure to allow enough free space for maintenance. The more free space you allocate, the less often your libraries will need to be compressed during maintenance.
- For common libraries already present, be sure there is sufficient space for CA-Deliver.
- Any currently allocated CAI target libraries may require expansion to accommodate CA-Deliver. See the topic *Hardware Requirements* in the chapter "System Requirements" to ensure that the available space in your target libraries will permit a successful APPLY.

Important Installation Considerations

- The installation of SYSMOD CHB1700 **will delete** SYSMOD CHB1600. CA-Deliver 1.7 requires the EBC 2.3 Common Component, SYSMOD CHC2300 (CHC2301). The EBC 2.3 component is **not** compatible with CA-View 1.7 or CA-View 2.0. Therefore, the Ca-Deliver 1.7 install will **not** delete the EBC 2.2 SYSMODs.
- CA-Deliver 1.7 **cannot** be installed into a CSI where CA-View 1.7 is using the EBC 2.1 common component SYSMODs CHA2100 (CHA2101).
- If you are installing CA-Deliver 1.7 into a CSI that does not contain CA-View 1.7 or CA-View 2.O, you can delete the EBC 2.2 SYSMODS by executing SAMPJCL member CHC22DEL. This should be done prior to installing CA-Deliver.
- If you are installing CA-Deliver 1.7 into a CSI that contains CA-View 1.7 or CA-View 2.O, CHC2200 (CHC2201) will still be required. Do **not** run CHC22DEL.

Step 3b: Allocate Private SMP/E Libraries

Member CAINITE or CAINITE5 in the CAI.SAMPJCL library allocates and initializes a set of private SMP data sets for all Computer Associates products in SMP/E Release 4 or SMP/E Release 5 (and above) format.

CAINITE or CAINITE5 also sets up CAI global, target, and distribution zones for Computer Associates products. Be sure to review comments within the member for necessary tailoring.

CAINITE and CAINITE5 can be run any number of times to change defaults. If you want to test CA-Deliver, do the following:

1. Use CAINITE or CAINITE5 to allocate a new set of SMP libraries to install it.
2. When you are satisfied with your testing, reinstall the product into your existing SMP libraries (which will delete any release of CA-Deliver).

   Condition Code 4 on the Allocation of CSI step or the Initialize Private Zones step is acceptable.

Note: We recommend private data sets in order to keep Computer Associates products as distinct entities from other SMP data sets.

Step 4: Customize the SMP Procedure

All users should perform this step.

CAI.SAMPJCL member HB17SMPE is the model JCL procedure using SMP/E to install this product. This member must be tailored and renamed to CAIHB17 for use in the following steps.

To customize SMP, do **one** of the following:

- Place this procedure into a system or user procedure library with member CAIHB17.
- Save this procedure for use in stream execution.

CAIHB17 will be used in subsequent steps.

Step 5: RECEIVE the Services

All users should perform this step.

Member HB17REC RECEIVEs all of the FMIDs (functional SYSMODs) of CA-Deliver services.

Edit the JCL to conform to your installation standards.

Some of the functions may have already been RECEIVEd if other Computer Associates solutions have been installed. If this occurs, SMP can "re-RECEIVE" the SYSMODs. Be aware that not all SYSMODs RECEIVEd are later ACCEPTed.

Note: If a SYSMOD fails, determine if it has already been RECEIVED. If so, remove it from the select list and resubmit the job.

FMIDs

The FMIDs that should be received (and later APPLYed and ACCEPTed) are listed in following table as they pertain to each of the CA-Deliver services.

FMIDs	Service
CHB1700	Define product component
CHC2300	Define the common component
CHC2301	Define the common component CICS API
CZ27000	Define CA-JCLCheck common component **Note:** If there was a previous installation of CA-JCLCheck, do not include the CZ27000 SYSMOD in the SMP/E installation.

Step 6: APPLY the Services

All users should perform this step.

Member HB17APP APPLYs all the services (functional SYSMODs) of CA-Deliver services to the target libraries.

Edit the JCL to conform to your installation standards.

APPLY Considerations With Pre-installed Services

If other Computer Associates solutions have been installed, some of these functions may have already been APPLYed. If this happens, a non-zero return code occurs. Remove any failing SYSMODs from the SELECT list, then resubmit the job.

SMP/E users have the option of specifying REDO on the APPLY command statement to re-APPLY the function, but **only** if the function has been installed in this step.

WARNING! *The APPLY will delete the prior release of CA-Deliver SYSMOD CHB1600 from the target and distribution libraries.*

To APPLY the CA-Deliver SYSMODs, do the following:

1. Modify the APPLY SELECT list.
2. Submit the job, then verify that APPLY processing ran successfully.

   If SMP APPLY completes with a return code greater than 4:

   a. Review the output carefully before continuing.

   b. Correct the problem.

   c. Resubmit the job.
3. Notice that the PTF symbolic has been modified in the APPLY sample JCL member HB17APP to prevent tape allocation, that is, PTF='DUMMY.'

Note: A return code of 4 from the linkage editor is normal when APPLYing a new function, and can be disregarded.

Step 7: Authorize Program Load Libraries

All users should perform this step.

Do **one** of the following to either authorize the program load library or copy the modules to a system-authorized library:

- If you want CA-Deliver to execute from its own load library, APF-authorize the load library by adding an entry for CAI.CAILIB to member IEAAPF*xx* of SYS1.PARMLIB.

  Note: Authorization will not take effect until the next IPL.

- If you do not want to APF-authorize the CA-Deliver distribution library, copy the load modules in CAI.CAILIB to an existing authorized library such as SYS1.LINKLIB or any other library in the linklist.

  Use **one** of the following to copy the load modules:

  - SPF option 3.3
  - Member HB17CAPF of CAI.SAMPJCL

  This batch job can be run to copy the load modules from CAI.CAILIB to USER.APFLIB.

  Note: The load modules must reside in an authorized library.

Step 8: Create the CA-Deliver Security Table (Optional)

Perform this step if you want to use the CA-Deliver security table. If you do not want to use the CA-Deliver security table, go to Step 9.

To use the CA-Deliver security table, create the security table and load the correct modules for your release of CA-Deliver.

For more information about security, see the chapter “Security” in the *CA-Deliver Reference Guide*.

Step 9: Convert CA-Deliver Database from a Prior Release (Optional)

If this is a new install of CA-Deliver, go to Step 10.

Important! *Before you bring up CA-Deliver 1.7, make sure you read Step 24 first.*

If you are converting your CA-Deliver database from Release 5.1 or 1.6 to CA-Deliver Release 1.7, do the following:

1. Run the RMODBASE VERSION control statement to convert the database.
2. Run the RMODBASE MAKECKPT EMPTY to clear your checkpoint database.

   Note: Your checkpoint data will **not** be preserved.

Should you need to go back to your prior release, you can use the VERSION statement. For more information about the RMODBASE utility, see the chapter "Utilities" in the *CA-Deliver Reference Guide*.

If you are converting to Release 1.7 from releases prior to 5.1, earlier in this chapter you unloaded your Database using your old release of RMODBASE. Complete the conversion as follows:

1. Allocate a new database with the CA-Deliver 1.7 RMODBASE utility with the ADDDs and MAKECKPT control statements.
2. Run RMODBASE at the CA-Deliver 1.7 level using the CONVERT control statement to use the previously unloaded tape as input to the new database.

WARNING! *If you are converting from a Release prior to 5.1, you will not be able to convert back.*

Step 10: Create the CA-Deliver Database (Optional)

All new users must perform this step.

To create the CA-Deliver database, use the ADDDS and MAKECKPT control statements in the RMODBASE utility program. A sample set of parameters for this job is provided in member RMODBASE of CAI.SAMPJCL. For more information about the RMODBASE utility, see the chapter "Utilities" in the *CA-Deliver Reference Guide*.

Step 11: Create the Initialization Parameter Statements

All users must perform this step.

Create the initialization parameter statements for the CA-Deliver started task. This can be a member within a PDS, referenced by the RMOPARMS DD statement of the CA-Deliver started task. Sample JCL for this job is provided in member RMOPARMS in CAI.PPOPTION. Initialization parameters are described in the chapter "Initialization Parameters" in the *CA-Deliver Reference Guide.*

The data sets for the CA-Deliver initialization parameter statements must:

- Be members in a partitioned data set
- Have a logical record length of 80 (LRECL=80)
- Have a block size of any multiple of 80 (for example, BLKSIZE=3200)
- Have record format FB (RECFM=FB)

Step 12: Modify the Skeleton JCL

All users must perform this step.

Examine and make any necessary changes to the skeleton JCL by editing member RMOJCLB in the CAI.CAIOLIBE data set as explained in the following sections.

The skeleton JCL is used by the CA-Deliver online task to submit background bundle jobs.

WARNING! *In previous versions of CA-Deliver, you could submit RMOBBP outside of CA-Deliver by using a scheduling system or issuing a TSO submit command. This is no longer supported. You must use new STEPLIBs to load the following JCL, unchanged, into the CA-Deliver database.*

```
&SJC1
&SJC2
&SJC3
&SJC4
//STEP1   EXEC PGM=RMOBBP=PARM='&IDX'
&J301
&J302
&J303
&J304
&J305
//*       Modify or remove STEPLIB where necessary
//STEPLIB DD   DSN=CAI.CAILIB,DISP=SHR
//SYSIN   DD   *
```

CA-View and CA-Deliver Libraries Authorization

The action you take in this step depends on how you handled the base product installation:

- If you authorized the CA-Deliver load library:

  Put the name of the library containing the CA-Deliver load modules in the STEPLIB statement of the skeleton JCL.

- If the CA-Deliver load modules were copied to your linklist library:

  Remove the STEPLIB in the skeleton JCL.

- If you have CA-View, and you authorized the CA-View load library:

  Put the name of the library containing the CA-View load modules in the STEPLIB statement of the skeleton JCL. Place this library after the CA-Deliver library in the STEPLIB concatenation.

- If the CA-View load modules were copied to your linklist library:

  Do nothing.

Be aware that you must concatenate the CA-View load library after the CA-Deliver load library in the STEPLIB statement.

Step 13: Load the Online Members and JCL Library Members

All users must perform this step.

Load the online panel and JCL library members to the database from the CAI.CAIOLIBE.

The OLOAD control statement is used to load the panel, message, and skeleton JCL members in the online library to the database. The online library is defined with the DD statement RMOOLIB.

The *high-level* name of the database must have been defined with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
OLOAD
```

Sample JCL for this job is provided in member RMODBASE of CAI.SAMPJCL.

Customizing BROWSE and HELP Panels

The CA-Deliver BROWSE and HELP panels are in the OLIB data set; you can modify them within the following limitations:

- Constants:

  Constants can be modified and their length can be increased or decreased. The new text will display as coded.

- Variables:
  - Most variables can be moved around the screen as long as the original variable names are retained, but be aware that the relative position of some variables is critical.
  - The length of a variable can be changed, but be aware that CA-Deliver will pad the value with blanks (or truncate it) to conform to its internal length.
  - Any variable can be deleted from a panel.
  - An attempt to add a new variable to a screen will result in the variable name itself appearing on the screen, without interpretation.

Customizing Panels for Color and Highlight

CA-Deliver supports the display of the following colors:

- Blue
- Red
- Pink
- Green
- Turquoise
- Yellow
- White

CA-Deliver supports the following highlight attributes:

- Blink
- Reverse video
- Underscore

Note: For these attributes, the colors used must be red, white, blue, or green.

Define color and highlight attributes on the CA-Deliver panels according to the rules listed in the IBM manual *Dialog Management Guide for ISPF*.

The following hexadecimal characters are reserved and cannot be defined as attribute statements on a panel:

Hex	Represents
00	Null character
0E	Shift out
0F	Shift in
40	Blank
50	Ampersand (&)

Step 14: Load the Model Banner Pages

All users must perform this step.

Load the model banner pages to the database from the CAI.CAIMBP data set.

The BLOAD control statement is used to load the model banner page members in the model banner page library to the database. The online library is defined with the DD statement RMOBLIB.

The *high-level* name of the database must have been defined with the NAME control statement (or the PARM parameter of the EXEC JCL statement).

Syntax

```
BLOAD
```

Sample JCL for this job is provided in member RMODBASE of CAI.SAMPJCL.

Step 15: Add the Start Procedure to PROCLIB

All users must perform this step.

Add the start procedure to PROCLIB for the CA-Deliver started task.

You must add the following start procedure JCL, located in HB17STC in CAI.SAMPJCL, as member RMOSTC of SYS1.PROCLIB:

```
//RMOSTC   EXEC PGM=RMOSTC,TIME=1440,REGION=64M
//STEPLIB  DD  DSN=CAI.CAILIB,DISP=SHR
//SYSUDUMP DD  SYSOUT=A
//RMOPARMS DD  DSN=CAI.PPOPTION(RMOPARMS),DISP=SHR
//RMOJTAB  DD  DSN=CAI.PPOPTION(RMOJTAB), DISP=SHR
```

- If the load modules were copied to an authorized library other than a linklist library, change the data set name on the STEPLIB DD statements.
- If the load modules were copied to a linklist library, remove the STEPLIB DD statements.
- If you use direct-to-VIEW, and the VIEW load library is separate, add it to the STEPLIB concatenation.

  Load module SARPAM in the load library is required for direct-to-VIEW archival.
- Change the data set name on the RMOPARMS DD statement to the name of the card image data set containing the initialization parameter statements.

  RMOPARMS can be a member of a PDS:

  ```
  //RMOPARMS DD  DSN=CAI.PPOPTION(RMOPARMS),DISP=SHR
  ```
- The RMOJTAB DD statement is optional; include it when job name translation control statements are to be input to the started task.

Step 16: Maintain Detail History with JES2 (Optional)

1. Determine the following:
   - Do you want to maintain detailed historical data with the actual date and time that reports and bundles are printed?

     Note: Detailed history will consume a considerable amount of DASD space.
   - Is JES2 your primary job entry system?
2. Do **one** of the following:
   - If you answered yes to both conditions in Step 1, continue with the next section, Capturing Detailed Historical Data.
   - If you answered no to either condition in Step 1, go to Step 18.

Capturing Detailed Historical Data

1. Determine the following:
   - Do you use impact printers or IBM 3800 printers that are operating in compatibility mode?
   - Is your printer a local, channel-attached printer?
   - Do you want to capture detailed historical data?

2. Do **one** of the following:

   - If you answered no to any of the conditions in Step 1, go to Step 18.
   - If you answered yes to all of the conditions in Step 1, assemble and linkedit RMOJ2XIT, which contains the source for EXIT1 and EXIT15, as a member of your JES2 load library (SYS1.LINKLIB).

     This should be applied as a USERMOD.

     A USERMOD to do this is located in HB17J2X in CAI.SAMPJCL.

     Add the following JES2 initialization parameters to the JES2 startup initialization stream:

```
EXIT1   ROUTINE=RMOJ2X1
EXIT15  ROUTINE=RMOJ2X15
LOAD    RMOJ2XIT
```

Step 17: Maintain Detail History with JES3 (Optional)

1. Determine the following:
   - Do you want to maintain detailed historical data with the actual date and time when reports and bundles are printed?
   - Is JES3 your primary job entry system?
2. If you answered yes to both conditions in Step 1, assemble the front-end control sections and linkedit them with the JES3 load modules as shown in the following table:

CA-Deliver JES3 User Exit Front-End Control Sections	JES3 User Exit Load Modules	USERMOD to Install
RMOJ3X21	IATUX21	HB17J321
RMOJ3X23	IATUX23	HB17J323

Your JES3 load module library should appear as the data set name of the L.SYSLMOD DD statements.

To install these exits, use the USERMODs located in CAI.SAMPJCL. Note that the source for these exits is located within the USERMOD.

3. Bring down JES3 and then bring it up to turn on the user exits.

Step 18: Verify That RESERVE Is Not Controlled by the System Integrity Product

All users must perform this step.

CA-Deliver issues RESERVEs as necessary to maintain the integrity of its database.

CA-Deliver has the following RESERVEs and ENQs:

Qname	Type	Description	MIM/GRS
RMOSTC	ENQ	Restricts Access Tasks	YES
RMOUPD	RESERVE	Serializes Updating	EXCLUDE

The scope is SYSTEMS.

Important! *When running in a multi-CPU environment with one of the available system integrity products,* ***do not*** *place the RESERVEs used by CA-Deliver under the control of the system integrity product (for performance reasons).*

Step 19: Construct the Initial Report and Job Data (Optional)

Perform this step if you want to construct initial report and job data in the CA-Deliver database. If you choose not to construct initial reports and job data, go to Step 21.

For more information, see the topic RMOJCL – Automatic Database Construction From JCL in the *CA-Deliver Reference Guide*.

Step 20: Set Up the Interface Between CA-Deliver and CA-View

All users must perform this step.

To set up an interface between CA-Deliver and CA-View, run the SARINIT initialization utility to add the following initialization option to CA-View:

```
EXPRESS=DB.HLQ
```

In the CA-Deliver initialization parameters, SAR=DB.HLQ is required.

For more information about executing SARINIT, see the *CA-View System Reference Guide* and the *CA-View Installation Guide*.

Step 21: Enter the LMP Code

All users must perform this step.

CA-Deliver requires CA LMP, one of the CA Common Services, in order to initialize correctly. CA LMP provides a standardized and automated approach to the tracking of licensed software. Examine the CA LMP Key certificate you received with your CA-Deliver installation or maintenance tape.

The LMP Key Certificate

Your LMP Key certificate contains the following information:

Field	Description
Product Name	Specifies the trademarked or registered name of the copy of CA-Deliver licensed for your designated site and CPUs
Supplement	Specifies the reference number of your license for the particular CA-Deliver, in the format *nnnnnn nnn* This format differs slightly inside and outside North America and, in some cases, may not be provided at all.
Expiration Date	Specifies the date (*MONTH dd, yyyy* as in OCTOBER 21, 2005) when your license expires for the installation and maintenance of the designated CA-Deliver
Technical Contact	Specifies the name of the technical contact at your site who is responsible for the installation and maintenance of CA-Deliver This is the person to whom Computer Associates addresses all CA LMP correspondence.

Field	Description
MIS Director	Specifies the name of the Director of MIS, or the person who performs that function at your site If the title, but not the individual's name, is indicated on the certificate, you should supply the actual name when correcting and verifying the certificate.
CPU Location	Specifies the address of the building where the CPU is installed
Execution Key	Specifies an encrypted code required by CA LMP for CA-Deliver initialization During installation, this code is referred to as the *LMP Code*.
Product Code	Specifies a two-character code that corresponds to CA-Deliver
CPU ID	Specifies a code that identifies the specific CPU for which installation of your CA-Deliver is valid

The CA LMP execution key (provided on the key certificate) must be added to the CAIRIM parameters to ensure proper initialization of the Computer Associates software solution.

Defining the CA LMP Execution Key

To define a CA LMP execution key to the CAIRIM parameters, modify member KEYS in OPTLIB data set.

Syntax

```
PROD(pp) DATE(ddmmmyy) CPU(tttt-mmmm/ssssss)
LMPCODE(kkkkkkkkkkkkkkk)
```

Where:

pp
: Specifies the two-character product code (required)

  For any given CA LMP software solution, this code agrees with the product code already in use by the CAIRIM initialization parameters for earlier genlevels of CA-Deliver.

ddmmmyy
: Specifies the CA LMP licensing agreement expiration date (required)

tttt-mmmm
: Specifies the CPU type and model (for example, 3090-600) on which the CA LMP software solution will run (required)

  If the CPU type and/or model requires less than four characters, blank spaces are inserted for the unused characters.

ssssss
: Specifies the serial number of the CPU on which the CA LMP software solution will run (required)

kkkkkkkkkkkk
: Specifies the execution key needed to run the CA LMP software solution (required)

  This CA LMP execution key is provided on the key certificate shipped with each CA LMP software solution.

The following example shows a control card for the CA LMP execution software parameter. Note that the CA LMP execution key is **invalid** and is provided as an example only.

```
PROD(HV) DATE(20JAN05) CPU(3090-600 /370623)
LMPCODE(52H2K06130Z7RZD6)
```

For a full description of the procedure for defining the CA LMP execution key to the CAIRIM parameters, see installation tasks 12b and 13b in the *CA Common Services Installation and Maintenance Guide*.

Multiple LMP Codes

CA-Deliver consists of the base product and several components (options) that are purchased separately. Because each component has its own LMP code, you are required to supply an LMP code for each component you purchased. The following table lists the component product codes:

pp	Component Description
HV	CA-Deliver base product
HW	CICS online interface
HX	IMS/DC online interface
HZ	Native TSO online interface
IF	CA-Roscoe online interface
H2	TSO/ISPF online interface
IJ	VTAM online interface

For more information about the components, see the section Software Requirements in the chapter "System Requirements."

Step 22: Install User Exits and Authorization Tables (Optional)

If this is a new install of CA-Deliver, skip this step until you have thoroughly tested and become familiar with the product.

User Exits

CA-Deliver contains several optional user exits, most of which can be modified by the user. These exits are documented in the *CA-Deliver Reference Guide*. CAI.SAMPJCL contains USERMODs that are used to modify and install these exits.

The exits and their USERMODs are as follows:

Exit Name	USERMOD
RMOATHUX	HB17ATHX
RMOBPCUX	HB17BPCX
RMOBPTUX	HB17BPTX
RMOJCLUX	HB17JCLX
RMOOMSUX	HB17OMSX
RMOPRBUX	HB17PRBX
RMORECUX	HB17RECX
RMORPTUX	HB17RPTX
RMORRQUX	HB17RRQX
RMOSMFUX	HB17SMFX
RMOSUBUX	HB17SUBX
RMOUSAUX	HB17USAX
RMOUSRUX	HB17USRX
RMOUSTUX	HB17USTX
RMOUSXUX	HB17USXX

User exit RMOFSSUX should be modified using USERMOD HB17FSSX in CAI.SAMPJCL. However, it must be assembled and linked outside of SMP. See the *CA-Deliver Reference Guide* for the JCL to install this exit.

WARNING! *If you use ISPF edit, you will change the line numbers in these exits. This will cause problems when maintenance is applied to the exits. Use the IEBUPDTE in these USERMODs for all modifications.*

Authorization Tables

You can define a separate authorization table for each CA-Deliver database. See the *CA-Deliver Reference Guide* for more information about defining and installing the authorization tables.

Step 23: ACCEPT the Services

All users must perform this step.

Member HB17ACC in CAI.SAMPJCL ACCEPTs all of the services (functional SYSMODs) of CA-Deliver services into the distribution libraries.

Edit the JCL to conform to your installation standards. See the previously completed worksheet in the appendix "Installation Worksheets."

Be sure to include any maintenance PTF SYSMODs previously RECEIVEd and APPLYed from the cumulative maintenance step. The PTF SYSMODs should be the last in the list of SYSMODs to be ACCEPTed.

ACCEPT Considerations With Pre-Installed Services

If other Computer Associates solutions have been installed, some of these functions may have already been ACCEPTed. If this happens, a non-zero return code occurs. Remove the failing SYSMODs and resubmit the job.

SMP/E users have the option of specifying REDO on the ACCEPT command statement, and should expect a return code of 8 which, in this case, is permissible.

Do the following:

1. Modify the ACCEPT SELECT list accordingly.
2. Submit the job, then verify that the ACCEPT processing ran successfully.

   If the SMP ACCEPT completes with a return code greater than 4, then do the following:

   a. Review the output carefully before continuing.

   b. Correct the problem.

   c. Resubmit the job.
3. Notice that the PTF symbolic has been modified in the ACCEPT sample JCL member (HB17ACC) to prevent tape allocation—that is, PTF='DUMMY'.

Step 24: Starting CA-Deliver - Upgrade Concerns

New clients can skip this step and should see the *CA-Deliver Reference Guide* for more information about starting CA-Deliver.

Clients who are upgrading from a prior release of CA-Deliver must make sure that:

1. The started task for the prior release has been withdrawn from the system by entering the **F RMOSTC,OFF** operator command or by performing an initial program load of the system.
2. All application jobs containing reports that are distributed by CA-Deliver have been completed before starting CA-Deliver 1.7.
3. All bundles have been completed.

To return to your old version of CA-Deliver after Release 1.7 has been brought up, you must follow the same procedures outlined above to withdraw the Release 1.7 started task and make sure that all application jobs and bundles have completed.

WARNING! *Failure to follow these procedures can result in abends in your application jobs and lost bundles.*

Chapter

6

Installing CA-Deliver Online Interfaces

This chapter describes the online interface options, the cross-memory drivers, and how to install the CA-Deliver online interfaces, including the following topics:

- Online and cross-memory interfaces
- Cross-memory drivers for ISPF, TSO, and CA-Roscoe interfaces
- Installation of the following:
  - ISPF online retrieval option
  - ISPF/cross-memory online retrieval option
  - TSO online retrieval option
  - TSO/cross-memory online retrieval option
  - VTAM online retrieval option
  - CA-Roscoe online retrieval option
  - CA-Roscoe/cross-memory online retrieval option
  - CICS pseudo-conversational option
  - IMS online retrieval option
  - Cross-memory services

Overview of CA-Deliver Online Interfaces

The following table lists the online interfaces, whether cross-memory services (XMS) must be installed, and any special advantages of using the interface.

Online Interface	XMS	Advantages
ISPF		
ISPF/XMS	YES	Does not require the STEPLIB to be APF authorized To simplify migration, you can run multiple releases of CA-Deliver concurrently.
TSO		
TSO/XMS	YES	Does not require the STEPLIB to be APF authorized To simplify migration, you can run multiple releases of CA-Deliver concurrently.
VTAM	YES	Supports extended data stream to queriable terminals
CICS	YES	To simplify migration, you can run multiple releases of CA-Deliver concurrently
IMS/DC	YES	
CA-Roscoe		
CA-Roscoe/XMS	YES	Does not require the STEPLIB to be APF authorized To simplify migration, you can run multiple releases of CA-Deliver concurrently.

Cross-Memory Services Interface (XMS)

The cross-memory services interface manages several interfaces; this allows you to control online access with a single operator interface. Advantages of the interfaces are discussed later in this chapter.

The parameters in the startup procedure for the cross-memory task allow you to control the following:

- The maximum number of users allowed on the system
- Whether to cancel users when they are inactive for a specified time (CANCEL and LONGWAIT)

See Installing Cross-Memory Services later in this chapter for information about startup parameters.

The operator commands available to modify the cross-memory task allow you to do the following:

- Cancel users
- Suspend additional logons
- List online usage statistics
- Modify selected cross-memory startup JCL parameters

For more information, see the chapter “Operator Commands” in the *CA-Deliver Reference Guide*.

Cross-Memory Drivers for ISPF, TSO, and CA-Roscoe Interfaces

You can use cross-memory services drivers to run the TSO, ISPF, and CA-Roscoe online interfaces. The advantages of using these drivers are as follows:

- Users are authorized by cross-memory drivers.

  When you use the cross-memory services drivers for the ISPF, TSO, or CA-Roscoe interfaces, users are authorized by cross-memory and do not also need authorization from the online interface (for example, TSO).

- Multiple versions of CA-Deliver can run simultaneously.

  When you use the cross-memory services drivers for the ISPF, TSO, or CA-Roscoe interfaces, you can run multiple releases of CA-Deliver concurrently. This allows for ease of migration when converting to new release levels of CA-Deliver.

  You can also run multiple versions of the online interfaces simultaneously.

Restrictions

The following restrictions apply when executing under the cross-memory drivers for TSO, ISPF, and CA-Roscoe:

- TSO SUBMIT is not used. The SUBMIT occurs from the connected cross-memory region.
- Direct reprints from the user have the JES banner pages of the cross-memory region. The internal CA-Deliver banner page can be used to check the user requesting the reprint.

User Exits

User exits run in the cross-memory region and do not have access to TSO or CA-Roscoe allocations.

Installing the ISPF Online Retrieval Option

The ISPF online retrieval option runs under the IBM Interactive System Productivity Facility (ISPF) Release 3.0 and higher for TSO.

The following list summarizes the steps to install the ISPF online retrieval option. Detailed instructions follow.

- Step 1: Add STEPLIB Statements

  In this step, you add STEPLIB DD statements to the TSO LOGON procedures if the load modules were not copied to a linklist library.

  This step is optional.

- Step 2: Add the Panel and Command Libraries

  In this step, you add the panel and command table libraries to the TSO logon procedures.

- Step 3: Modify an ISPF Selection Menu to Select Online Retrieval (Optional)

Step 1: Add STEPLIB Statements

The action you take in this step depends on what you did during the base-product installation—specifically, whether you authorized the program load library or copied the modules to a system-authorized library.

If the CA-Deliver load modules were **not** copied to one of the libraries in the linklist, proceed with this step; otherwise go directly to the next step.

Do the following:

1. Add STEPLIB DD statements to the TSO LOGON procedures if the load modules were **not** copied to a linklist library.
2. Add a STEPLIB DD statement for the library containing the CA-Deliver load modules to the LOGON procedures for those TSO users who will be using the ISPF online retrieval option.

Note: If you have CA-View, the CA-Deliver load modules must also be either in the linklist, or in a STEPLIB statement with this step.

Step 2: Add the Panel and Command Libraries

If your system runs CA-Deliver under ISPF, proceed with this step.

To add the panel and command libraries to the TSO logon procedure, do the following:

1. Concatenate the command table library CAI.CAIISPT to DD statement ISPTLIB.
2. Concatenate the panel library CAI.CAIISPP to DD statement ISPPLIB.

Note: If you also plan to use RMOSPF (the ISPF interface), and multiple releases of CA-Deliver, concatenate CAI.CAIISPT first. Use the CAI.CAIISPT from the most current release.

Step 3: Modify an ISPF Selection Menu to Select Online Retrieval (Optional)

If you want to add a selection code for the online retrieval feature to one of the ISPF selection menus, proceed with this step; otherwise your detailed instructions for ISPF are complete.

Use the following table to define your selection code:

Type	Selection Code Definition
ISPF (all versions)	'PGM(RMOSPF) PARM(high-level-database-name) NEWAPPL(RMO)'

Use the value next to the NAME parameter on your Initialization Parameter Worksheet for PARM (high-level-database-name).

Note: Adding a selection code will allow you to select the online retrieval feature in the same way you would select other ISPF options.

Panel Libraries

Ask your programmer (or system administrator) for the specific ISPF panel library that applies to your installation containing the panel ISR@PRIM.

Note: The selection menus shown in the following examples are part of the program product ISPF and are copyrighted by IBM.

Example 1

The following example shows you how to add selection code R to the primary option menu ISR@PRIM for ISPF. The inserted lines are identified by a rectangular box.

```
   %----------------------- ISPF/PDF PRIMARY OPTION MENU -------------------------
   %OPTION ===>_ZCMD                                                  +
   %                                  +USERID   - &ZUSER
   %  0 +ISPF PARMS -  SPECIFY TERMINAL AND USER PARAMETERS  +TIME    -
&ZTIME
   %  1 +BROWSE     -  DISPLAY SOURCE DATA OR OUTPUT LISTINGS +TERMINAL -
&ZTERM
   %  2 +EDIT       -  CREATE OR CHANGE SOURCE DATA       +PF KEYS - &ZKEYS
   %  3 +UTILITIES  -  PERFORM UTILITY FUNCTIONS
   %  4 +FOREGROUND -  INVOKE LANGUAGE PROCESSORS IN FOREGROUND
   %  5 +BATCH      -  SUBMIT JOB FOR LANGUAGE PROCESSING
   %  6 +COMMAND    -  ENTER TSO COMMAND, CLIST, OR REXX EXEC
   %  7 +DIALOG TEST -  PERFORM DIALOG TESTING
   %  8 +LM UTILITIES - PERFORM LIBRARY ADMINISTRATOR UTILITY FUNCTIONS
   %  C +CHANGES    -  DISPLAY SUMMARY OF CHANGES FOR THIS RELEASE
   %  R +RMOSPF     -  DELIVER ADMINISTRATION
   %  T +TUTORIAL   -  DISPLAY INFORMATION ABOUT ISPF/PDF
   %  X +EXIT       -  TERMINATE ISPF USING LOG AND LIST DEFAULTS
   %
   +ENTER%END+COMMAND TO TERMINATE ISPF.
   )INIT
    .HELP = ISR00003
    &ZPRIM = YES       /* ALWAYS A PRIMARY OPTION MENU     */
    &ZHTOP = ISR00003  /* TUTORIAL TABLE OF CONTENTS       */
    &ZHINDEX = ISR91000 /* TUTORIAL INDEX - 1ST PAGE       */
   )PROC
    &ZSEL = TRANS( TRUNC (&ZCMD,'.')
                0,'PANEL(ISPOPTA)'
                1,'PGM(ISRBRO) PARM(ISRBRO01)'
                2,'PGM(ISREDIT) PARM(P,ISREDM01)'
                3,'PANEL(ISRUTIL)'
                4,'PANEL(ISRFPA)'
                5,'PGM(ISRJB1) PARM(ISRJPA) NOCHECK'
                6,'PGM(ISRPTC)'
                7,'PGM(ISPYXDR) PARM(ISR) NOCHECK'
                8,'PANEL(ISRLPRIM)'
                C,'PGM(ISPTUTOR) PARM(ISR00005)'
                R,'PGM(RMOSPF) PARM(RMO.SYSTEM1) NEWAPPL(RMO)'
                T,'PGM(ISPTUTOR) PARM(ISR00000)'
               ' ' ' '
                 ,
                 X,'EXIT'
                 *,'?' )
     &ZTRAIL = .TRAIL
   )END
```

Note: NEWAPPL(RMO) is required and must be specified as shown above. (This parameter is used in conjunction with the command table library concatenation from Step 2 of the ISPF Installation Instructions.) This specification allows CA-Deliver to correctly interpret commands and program function key invocation. If it is not specified, certain PF keys (such as the scroll keys) may not function.

Example 2

The following example shows you how to add selection code 3.R as a sub-option to the utilities menu ISPUTIL for ISPF. The inserted lines are identified by a rectangular box.

```
%----------------------  UTILITY SELECTION MENU  --------- -----------
%OPTION  ===>_OPT        +
%                                                  +
%   1 +LIBRARY     - LIBRARY UTILITY:
+                  PRINT INDEX LISTING OR ENTIRE DATASET
+                  PRINT, RENAME, DELETE, OR BROWSE MEMBERS
+                  COMPRESS DATASET
%   2 +DATASET     - DATASET UTILITY:
+                  DISPLAY DATASET INFORMATION
+                  ALLOCATE, RENAME, OR DELETE ENTIRE DATASET
+                  CATALOG OR UNCATALOG DATASET
%   3 +MOVE/COPY   - MOVE OR COPY MEMBERS OR DATASETS
%   4 +CATALOG     - CATALOG MANAGEMENT:
+                  DISPLAY OR PRINT CATALOG ENTRIES
+                  INITIALIZE OR DELETE USER CATALOG ALIAS
%   5 +RESET       - RESET STATISTICS FOR MEMBERS OF ISPF LIBRARY
%   6 +HARDCOPY    - INITIATE HARDCOPY OUTPUT
%   7 +VTOC        - DISPLAY OR PRINT VTOC ENTRIES FOR A DASD VOLUME
%   8 +OUTLIST     - DISPLAY, DELETE, OR PRINT HELD JOB OUTPUT
%   9 +SCRIPT/VS   - FORMAT,DISPLAY, AND OPTIONALLY PRINT SCRIPT TEXT
%   R +RMOSPF      - DELIVER ADMINISTRATION
)INIT
  .HELP = TU
)PROC
  &SEL = TRANS( TRUNC (&OPT,'.')
              1,'PGM(ISPUDA) PARM(UDA1)'
              2,'PGM(ISPUDA) PARM(UDA1)'
              3,'PGM(ISPUMC)'
              4,'PGM(ISPUCA)'
              5,'PGM(ISPURS)'
              6,'PGM(ISPUHC)'
              7,'PGM(ISPUVT)'
              8,'PGM(ISPUOL) PARM(UOL01)'
              9,'PGM(ISPUSC) PARM(SCRPTA)'
              R,'PGM(RMOSPF) PARM(RMO.SYSTEM1)'
              ' ' ' '
               '
               *,'?' )
)END
```

Installing the ISPF/Cross-Memory Online Retrieval Option

The ISPF/Cross-Memory Online Retrieval Option runs under IBM's ISPF Release 3.0 and higher for TSO.

Cross-Memory Needed

This interface requires cross-memory services to be installed. See Installing Cross-Memory Services later in this chapter. Also, the parameter XMSSUB must be set to YES in the JCL for the cross-memory services task.

The following list summarizes the steps to install the ISPF/Cross-Memory Online Retrieval Option. Detailed instructions follow.

- Step 1: Add STEPLIB DD Statements to the TSO LOGON Procedures

  In this step, you add STEPLIB DD statements to the TSO LOGON procedures if the load modules were not copied to a linklist library.

  This step is optional.

- Step 2: Add Panel and Command Table Libraries to TSO Logon

  In this step, you add the panel and command table libraries to the

  TSO logon procedures for ISPF only.

- Step 3: Modify an ISPF Selection Menu to Select Online Retrieval (Optional)

  In this step, you modify an ISPF selection menu to select the online retrieval feature.

  This step is optional.

Step 1: Add STEPLIB DD Statements to the TSO LOGON Procedures

The action you take in this step depends on what you did during the base-product installation—specifically, whether you authorized the program load library, or copied the modules to a system authorized library.

If the CA-Deliver load modules were **not** copied to one of the libraries in the linklist, proceed with this step; otherwise go to the next step.

For this interface, the libraries do not have to be APF authorized. Authorization is provided in the cross-memory installation. Multiple releases of this online interface can coexist in one TSO library concatenation.

Do **one** of the following:

- Add a STEPLIB DD statement for the library containing the CA-Deliver load modules to the LOGON procedures for those TSO users who will be using the ISPF/cross-memory online retrieval option.
- Provide the load library via the ISPF LIBDEF facility.

Note: If multiple releases of CA-Deliver will be running, or you want to also run a previous release of RMOSPF or RMOTSO, concatenate the LOADLIB you want RMOSPF or RMOTSO to use first.

Step 2: Add Panel and Command Table Libraries to TSO Logon

If your system runs CA-Deliver under ISPF, proceed with this step. For Version 3 or higher, both the command table library and the panel library are used.

To add panel and command table libraries to the TSO logon procedure, do the following:

1. Concatenate the command table library CAI.CAIISPT to DD statement ISPTLIB.

2. Concatenate the panel library CAI.CAIISPP to DD statement ISPPLIB.

Note: If you also plan to use RMOSPF (the ISPF interface), and multiple releases of CA-Deliver, concatenate CAI.CAIISPT first. Use the CAI.CAIISPT from the most current release.

Step 3: Modify an ISPF Selection Menu to Select Online Retrieval (Optional)

If you want to add a selection code to one of the ISPF selection menus for the online retrieval feature, proceed with this step; otherwise your ISPF detailed instructions are complete.

Note: Adding a selection code will allow you to select the online retrieval feature in the same way you select other ISPF options.

Use the value next to the NAME parameter on your Initialization Parameter Worksheet for PARM (high-level database name). Use the following table for ISPF:

Type	Selection Code is Defined As
ISPF (all versions)	'PGM(E23XMSPF) PARM(high-level database name) NEWAPPL(RMO)'

Panel Libraries

Ask your system administrator for the specific ISPF panel library that applies to your installation containing the panel ISR@PRIM.

Note: The selection menus shown in the following examples are part of the program product ISPF and are copyrighted by IBM.

Example 1

The following example shows you how to add selection code R to the primary option menu ISR@PRIM for ISPF. The inserted lines are identified by a rectangular box.

```
%----------------------  ISPF/PDF PRIMARY OPTION MENU  --------------------
%OPTION  ===>_ZCMD                                                +
%                                        +USERID   - &ZUSER
%   0 +ISPF PARMS  - SPECIFY TERMINAL AND USER PARAMETERS   +TIME     - &ZTIME
%   1 +BROWSE      - DISPLAY SOURCE DATA OR OUTPUT LISTINGS +TERMINAL - &ZTERM
%   2 +EDIT        - CREATE OR CHANGE SOURCE DATA           +PF KEYS  - &ZKEYS
%   3 +UTILITIES   - PERFORM UTILITY FUNCTIONS
%   4 +FOREGROUND  - INVOKE LANGUAGE PROCESSORS IN FOREGROUND
%   5 +BATCH       - SUBMIT JOB FOR LANGUAGE PROCESSING
%   6 +COMMAND     - ENTER TSO COMMAND, CLIST, OR REXX EXEC
%   7 +DIALOG TEST - PERFORM DIALOG TESTING
%   8 +LM UTILITIES- PERFORM LIBRARY ADMINISTRATOR UTILITY FUNCTIONS
%   C +CHANGES     - DISPLAY SUMMARY OF CHANGES FOR THIS RELEASE
%   R +RMOSPF      - DELIVER ADMINISTRATION
%   T +TUTORIAL    - DISPLAY INFORMATION ABOUT ISPF/PDF
%   X +EXIT        - TERMINATE ISPF USING LOG AND LIST DEFAULTS
%
+ENTER%END+COMMAND TO TERMINATE ISPF.
)INIT
  .HELP = ISR00003
  &ZPRIM = YES        /* ALWAYS A PRIMARY OPTION MENU     */
  &ZHTOP = ISR00003   /* TUTORIAL TABLE OF CONTENTS       */
  &ZHINDEX = ISR91000 /* TUTORIAL INDEX - 1ST PAGE        */
)PROC
  &ZSEL = TRANS( TRUNC (&ZCMD,'.')
             0,'PANEL(ISPOPTA)'
             1,'PGM(ISRBRO) PARM(ISRBRO01)'
             2,'PGM(ISREDIT) PARM(P,ISREDM01)'
             3,'PANEL(ISRUTIL)'
             4,'PANEL(ISRFPA)'
             5,'PGM(ISRJB1) PARM(ISRJPA) NOCHECK'
             6,'PGM(ISRPTC)'
             7,'PGM(ISPYXDR) PARM(ISR) NOCHECK'
             8,'PANEL(ISRLPRIM)'
             C,'PGM(ISPTUTOR) PARM(ISR00005)'
             R,'PGM(E23XMSPF) PARM(RMO.SYSTEM1) NEWAPPL(RMO)'
             T,'PGM(ISPTUTOR) PARM(ISR00000)'
            ' ',' '
             X,'EXIT'
             *,'?' )
   &ZTRAIL = .TRAIL
 )END
```

Note: NEWAPPL(RMO) is required and must be specified as shown earlier in this section. (This parameter is used in conjunction with the command table library concatenation from Step 2 of the ISPF Installation Instructions.) NEWAPPL(RMO) allows CA-Deliver to correctly interpret commands and program function key invocation; if it is not specified, certain PF keys such as the scroll keys may not function.

Example 2

The following example shows you how to add selection code 3.R as a sub-option to the utilities menu ISPUTIL for ISPF. The inserted lines are identified with a rectangular box.

```
%----------------------  UTILITY SELECTION MENU  --------------------
%OPTION  ===>_OPT        +
%                                                  +
%   1 +LIBRARY       LIBRARY UTILITY:
+                    PRINT INDEX LISTING OR ENTIRE DATASET
+                    PRINT, RENAME, DELETE, OR BROWSE MEMBERS
+                    COMPRESS DATASET
%   2 +DATASET       DATASET UTILITY:
+                    DISPLAY DATASET INFORMATION
+                    ALLOCATE, RENAME, OR DELETE ENTIRE DATASET
+                    CATALOG OR UNCATALOG DATASET
%   3 +MOVE/COPY     MOVE OR COPY MEMBERS OR DATASETS
%   4 +CATALOG       CATALOG MANAGEMENT:
+                    DISPLAY OR PRINT CATALOG ENTRIES
+                    INITIALIZE OR DELETE USER CATALOG ALIAS
%   5 +RESET         RESET STATISTICS FOR MEMBERS OF ISPF LIBRARY
%   6 +HARDCOPY      INITIATE HARDCOPY OUTPUT
%   7 +VTOC          DISPLAY OR PRINT VTOC ENTRIES FOR A DASD VOLUME
%   8 +OUTLIST       DISPLAY, DELETE, OR PRINT HELD JOB OUTPUT
%   9 +SCRIPT/VS     FORMAT, DISPLAY, AND OPTIONALLY PRINT SCRIPT TEXT
%   R +RMOSPF        DELIVER ADMINISTRATION
)INIT
  .HELP = TU
)PROC
  &SEL = TRANS( TRUNC (&OPT,'.')
               1,'PGM(ISPUDA) PARM(UDA1)'
               2,'PGM(ISPUDA) PARM(UDA1)'
               3,'PGM(ISPUMC)'
               4,'PGM(ISPUCA)'
               5,'PGM(ISPURS)'
               6,'PGM(ISPUHC)'
               7,'PGM(ISPUVT)'
               8,'PGM(ISPUOL) PARM(UOL01)'
               9,'PGM(ISPUSC) PARM(SCRPTA)'
               R,'PGM(E23XMSPF) PARM(RMO.SYSTEM1)'
             ' ' ' '
              ,
               *,'?' )
 )END
```

Installing the TSO/Cross-Memory Online Retrieval Option

Cross-Memory Needed

This interface requires cross-memory services to be installed. For more information, see Installing Cross-Memory Services later in this chapter.

Note: The parameter XMSSUB must be set to YES in the JCL for the cross-memory services task.

The following list summarizes the steps to install the TSO/Cross-Memory Online Retrieval Option. Detailed instructions follow.

- Step 1: Add STEPLIB DD Statements

  In this step, you add STEPLIB DD statements to the TSO LOGON procedures if the load modules were not copied to a linklist library.

  This step is optional.

- Step 2: Set Up the TSOXMS Driver Program (Optional)

  In this step, you create user CLISTs to execute the CA-Deliver TSO/XMS driver program.

Step 1: Add STEPLIB DD Statements

The action you take in this step depends on what you did during the base-product installation—specifically, whether you authorized the program load library or copied the modules to a system authorized library.

If the CA-Deliver load modules were **not** copied to one of the libraries in the linklist, proceed with this step; otherwise go to the next step.

CA-Deliver LOADLIBs

Add STEPLIB DD statements (for the library containing the CA-Deliver load modules) to the TSO LOGON procedures by doing **one** of the following:

- Add a STEPLIB DD statement for the library containing the CA-Deliver load modules to the LOGON procedures for those TSO users who will be using the ISPF/cross-memory online retrieval option.
- Provide the load library via the ISPF LIBDEF facility (these modules execute "non-authorized").

Note: For this interface, the libraries do not have to be APF authorized—authorization is provided in the cross-memory installation. Multiple releases of this online interface can coexist in one TSO library concatenation.

Step 2: Set Up the TSOXMS Driver Program (Optional)

To create user CLISTs to execute the CA-Deliver TSOXMS driver program, issue the following command:

```
E23XMTSO highlevel.databasename
```

Installing the VTAM Online Retrieval Option

Cross-Memory Needed

This facility uses the cross-memory feature distributed with CA-Deliver and must be installed in conjunction with that feature. For more information, see the section Installing Cross-Memory Services later in this chapter.

The following list summarizes the steps to install the VTAM Online Retrieval Option. Detailed instructions follow.

- Step 1: Define the Application Program to VTAM
- Step 2: Create a USS Table Definition (Optional)

Step 1: Define the Application Program to VTAM

Add the following application program definition to SYS1.VTAMLST:

```
* SYS1.VTAMLST(rmomajor)
rmomajor VBUILD TYPE=APPL
rmovtam  APPL  ACBNAME=rmovtam,AUTH=(PASS,ACQ),EAS=nn
```

Where:

rmomajor	Specifies the application program major node name Use the SYS1.VTAMLST member name. The member name must be unique and must not be the same as the names on the APPL statement.
AUTH=(PASS,ACQ)	Is required when the cross-memory parameter VTAMPASS=YES is used to support multiple cross-memory regions If VTAMPASS=NO, you can specify AUTH=(ACQ). See Step 1: Add the Start Procedure for the Cross-Memory Online Task later in this chapter for more information about the VTAMPASS parameter.
EAS=*nn*	Specifies the approximate number of concurrent sessions

rmovtam Specifies the application program minor node name

This name must be unique within the network domain; it is the APPLID referenced in the USS definition table or LOGON command. This name is also specified on the cross-memory RMOAPPL parameter.

If not specified, the network-unique name (the name of the APPL definition statement) is used.

Step 2: Create a USS Table Definition (Optional)

To simplify the manner in which a user logs on to VTAM online retrieval, you can create a USS definition table for CA-Deliver.

Example

Assume that two CA-Deliver systems have been created. The databases for the two systems have high-level names of RMO.SYSTEM1 and RMO.SYSTEM2, and you want a user to simply enter one of the following to logon to VTAM online retrieval for the respective systems:

```
RMO1
RMO2
```

Create a USS definition table as follows:

```
USSTAB
*
*    ENTRY FOR RMO1
*
USSCMD  CMD=RMO1,REP=LOGON,FORMAT=PL1
USSPARM PARM=LOGMODE
USSPARM PARM=DATA,DEFAULT=RMO.SYSTEM1
*
*    ENTRY FOR RMO2
*
USSCMD  CMD=RMO2,REP=LOGON,FORMAT=PL1
USSPARM PARM=APPLID,DEFAULT=RMOVTAM
USSPARM PARM=LOGMODE
USSPARM PARM=DATA,DEFAULT=RMO.SYSTEM2
USSEND
```

Installing the CA-Roscoe Online Retrieval Option

The CA-Roscoe online retrieval option runs as a command processor under ETSO/Roscoe.

The following list summarizes the steps to install the CA-Roscoe Online Retrieval Option. Detailed instructions follow.

- Step 1: Concatenate the Load Module Library (Optional)

  This step concatenates the load module library to the ETSOLIB DD statement if the load modules were not copied to a linklist library.

- Step 2: Add RMOROS Command Processor Statements

  This step adds the control statement for the RMOROS command processor to the EPL (Eligible Program List).

Step 1: Concatenate the Load Module Library (Optional)

Concatenate the load module library to the ETSOLIB DD statement by concatenating the library containing the load modules to the ETSOLIB DD statement in the CA-Roscoe start up JCL (if the load modules were not copied to a linklist library).

Note: If you have CA-View, the CA-Deliver load modules must also be either in the linklist, or in a STEPLIB statement with this step.

Step 2: Add RMOROS Command Processor Statements

For CA-Roscoe 5.7–6.0 and Higher

Add the following Eligible Program List control statement to member ETSOPGMS for the CA-Roscoe user with the RO prefix:

Column	Contents
1–8	RMOROS
9	Blank
10–12	Number of users allowed to access CA-Deliver at one time
13	Blank
14–17	CPU time slice; use 9999 to prevent premature termination
18	Blank
19–24	Maximum memory (in KB) below the 16 MG line; this value can vary depending on size of database, and other factors (0001000 should be adequate)
25	Blank
26–31	Maximum memory (in KB) below the line that CA-Deliver can acquire at one time; use 999999 so that GETMAINs will not be limited
32	Blank
33–38	Maximum memory (in KB) above the 16 MB line; this value can vary depending on features used (000512 should be adequate)
39	Blank
40–45	Maximum memory (in KB) above the line that CA-Deliver can acquire at one time; use 999999 so that GETMAINs will not be limited
46	Blank

Column	Contents
47–48	CP to call RMOROS as a TSO command processor
49–50	Blank

CA-Roscoe 5.0–5.6

Add the following EPL control statement for the RMOROS command processor to member ETSOPGMS for the CA-Roscoe user with the RO prefix:

Column	Contents
1–8	RMOROS
9	Blank
10–13	CPU time slice Use 9999 to prevent premature termination.
14	Blank
15–18	Maximum memory (in KB) This value can vary depending on the size of database, and other factors (0512 should be adequate).
19	Blank
20–23	Memory per request (in KB) Use the same value as the maximum memory value (0512).
24	Blank
25	D
26–28	Blank
29–30	CP
31–49	Blank
50–72	Comments

Installing the CA-Roscoe/Cross-Memory Online Retrieval Option

The CA-Roscoe/cross-memory online retrieval option runs as a command processor under ETSO/Roscoe.

Cross-Memory Needed

This interface requires cross-memory services to be installed. For more information, see Installing Cross-Memory Services later in this chapter. Be sure to do the following:

- Set the parameter XMSSUB to YES in the JCL for the cross-memory services task.

The following list summarizes the steps to install the CA-Roscoe Cross-Memory Online Retrieval Option. Detailed instructions follow.

- Step 1: Concatenate the Load Module Library (Optional)

  This step concatenates the load module library to the ETSOLIB DD statement, if the load modules were not copied to a linklist library.

- Step 2: Add RMOROS Command Processor Statements

  This step adds the control statement for the RMOROS command processor to the Eligible Program List (EPL).

Step 1: Concatenate the Load Module Library (Optional)

Concatenate the library containing the load modules to the ETSOLIB DD statement in the CA-Roscoe start up JCL, if the load modules were not copied to a linklist library.

Note: If you have CA-View, the CA-Deliver load modules must also be either in the linklist, or in a STEPLIB statement with this step.

Step 2: Add RMOROS Command Processor Statements

CA-Roscoe 5.7–6.0 and Higher

Add the following EPL control statement to member ETSOPGMS for the CA-Roscoe user with the RO prefix:

Column	Contents
1–8	E23XMROS
9	Blank
10–12	Number of users allowed to access CA-Deliver at one time
13	Blank
14–17	CPU time slice (use 9999 to prevent premature termination)
18	Blank
19–24	Maximum memory (in KB) below the 16 MB line; this memory is only for the cross-memory driver program (50K is ample)
25	Blank
26–31	Maximum memory (in KB) below the line that CA-Deliver can acquire at one time; use 999999 so that GETMAINs will not be limited
32	Blank
33–38	Maximum memory (in KB) above the 16 MB line; this memory is only for the cross-memory driver program (50K is ample)
39	Blank
40–45	Maximum memory (in KB) above the line that CA-Deliver can acquire at one time; use 999999 so that GETMAINs will not be limited
46	Blank
47–48	CP to call E23XMROS as a TSO command processor
49–50	Blank

CA-Roscoe 5.0–5.6

Add the following EPL control statement for the RMOROS command processor to member ETSOPGMS for the CA-Roscoe user with the RO prefix:

Column	Contents
1–8	E23XMROS
9	Blank
10–13	CPU time slice; use 9999 to prevent premature termination
14	Blank
15–18	Maximum memory (in KB); this memory is only for the cross-memory driver program (50K is ample)
19	Blank
20–23	Memory per request (in KB); this memory is only for the cross-memory driver program (50K is ample)
24	Blank
25	D
26–28	Blank
29–30	CP
31–49	Blank
50–72	Comments

TSO, ISPF, and CA-Roscoe Cross-Memory Notes

The cross-memory TSO, ISPF, or CA-Roscoe access involves up to three different address spaces as follows:

- TSO or CA-Roscoe address spaces

  The TSO command, ISPF, or CA-Roscoe application program resides here. If ISPF/XMS is being used with ISPF split-screen active, up to two sessions can be executing at the same time, to the same database or different databases.

- The XMS support subtask

  This task is started when the XMSSUB=YES input parameter is used when starting an XMS address space. It can be in a separate XMS address space or it can share the address space with XMS or VTAM sessions.

  The XMSSUB=YES must only be used in an XMS address space with a default subsystem ID (SUBSYS=XM23 or not specified).

  If multiple XMS address spaces are started, only one can have the XMSSUB=YES specified.

  Note: All IMS/DC,TSO/XMS, ISPF/XMS, and CA-Roscoe/XMS sessions share the same XMS subtask.

- XMS address spaces

  The XMS regions must have the XMS=YES parameter to make them accessible. The SUBSYS= parameter must match the E23XMCTR table entry for the database.

  Multiple address spaces can be used if needed.

E23XMCTR Definitions

The E23XMCTR table must be assembled during installation and added as an RPL to define the relationship between CA-Deliver, CA-View database high-level qualifiers, and the session options to be used.

The table contains an EBCXMOPT macro to define initialization options and one SARXMTRN, RMOXMTRN or INBXMTRN macro for each TSO user session. The transaction definition macros are searched by database name and the first match is used.

If no entry is found in the E23XMCTR table, the session is rejected.

The following parameters can be used:

Parameter	Function
SUBSYS=	Routes the session to an alternate XMS subsystem ID
RECON=YES	Allows reconnection (after a TSO terminal error) at the point of exit **Note:** Do not specify RECON=YES if you use a multi-session manager that assigns LU names from a pool of names. Coding RECON=YES under these conditions could allow a user to be connected to another user's session.
TIMEOUT=	Specifies how long TSO will wait for the XMS session to respond after the user enters input, in seconds We recommended that you use a value of 240 seconds (4 minutes).

To abort the XMS session and return the user to ISPF or the TSO command prompt, press the ATTN key.

Note: The number of user connections is controlled by the SUBMAX= parm, not the USERMAX= parameter, which only applies when using the subtask with the CICS interface.

Installing the CICS Pseudo-Conversational Option

Cross-Memory Needed

This option uses the cross-memory feature distributed with CA-Deliver and must be installed in conjunction with that feature. See the section Installing Cross-Memory Services later in this chapter.

The following list summarizes the steps to install the CICS Pseudo-Conversational Option. Detailed instructions follow.

- Step 1: Add Modules to DFHRPL and STEPLIB

  In this step, you place the CA-Deliver load libraries into DFHRPL and STEPLIB.

- Step 2: Code the PCT and PPT Table Entries to CICS

  In this step, you code the CICS table entries.

- Step 3: Invoke CA-Deliver from a CICS Menu System (Optional)

  In this step, you prepare the interface to a user-written CICS menu system.

  This step is optional.

Step 1: Add Modules to DFHRPL and STEPLIB

The CA-Deliver load library is required in the CICS DFHRPL and also in the STEPLIB in the CICS region.

Note: If the CA-Deliver load library is in the linklist, it does not have to be included as a STEPLIB in the CICS region.

Be sure the following modules are available in the DFHRPL concatenation of libraries.

- E23CICUX
- E23CIEND
- E23CINIT
- E23CISRV
- E23XMCIC
- E23C*release-number*

You can either concatenate the CA-Deliver load library to DD statement DFHRPL or just copy the listed modules to an existing library in the concatenation.

Note that several CA-Deliver modules are loaded (MVS load) from the CICS STEPLIB or LINKLIST. Therefore, the entire CA-Deliver load library should be defined in the CICS STEPLIB or be included in the linklist.

Step 2: Code the PCT and PPT Table Entries to CICS

Use the examples in this section as a guide as you do the following:

1. Code and add PCT and PPT table entries to CICS.
2. Define one or more transaction identifiers for the pseudo-conversational program E23XMCIC. You must define a separate, unique transaction identifier for each CA-Deliver database you want to access under CICS.

3. Define a transaction identifier for the service program E23CISRV.

Example of PCT Entries

Use the following table entry to define transaction identifier RMO1 to invoke the CA-Deliver cross-memory online feature:

```
DFHPCT    TYPE=ENTRY,TRANSID=RMO1,PROGRAM=E23XMCIC,      X
          DTB=NO,SCRNSZE=ALTERNATE,                      X
          SPURGE=YES
```

Use the following table entry to define transaction identifier XM23 as the service transaction:

```
DFHPCT    TYPE=ENTRY,TRANSID=XM21,PROGRAM=E23CISRV,      X
          DTB=NO,SPURGE=YES
```

Optional PCT Entries to Define Transactions

Use this table entry to define a transaction code that initializes the CA-Deliver subtask when you enter the transaction code on a console:

```
DFHPCT TYPE=ENTRY,TRANSID=RMI,PROGRAM=E23CINIT
```

Use this table entry to define a transaction code that terminates the CA-Deliver subtask as well as all user sessions when you enter the transaction code on a console:

```
DFHPCT TYPE=ENTRY,TRANSID=RMX,PROGRAM=E23CIEND
```

Note: *RMI* and *RMX* represent a transaction identifier you specify.

CICS Resource Definition Online Storage Protection

If you have CICS storage protection activated, resource definition online settings are required, as follows:

- For all transactions:

  ```
  TASKDATALOC=ANY
  TASKDATAKEY=CICS
  ```

- For all programs:

  ```
  DATALOCATION=ANY
  EXECKEY=CICS
  ```

PLT Start-up List

Add these table entries to the last phase of the PLT startup list to initialize the subtask that is used for cross-memory access:

```
DFHPLT TYPE=ENTRY,PROGRAM=DFHDELIM
DFHPLT TYPE=ENTRY,PROGRAM=E23CINIT
```

PLT Shutdown List

Add this table entry to the first phase of the PLT shutdown list to ensure that the subtask that executes as part of the CA-Deliver online facility correctly shuts down when CICS shuts down:

```
DFHPLT TYPE=ENTRY,PROGRAM=E23CIEND
DFHPLT TYPE=ENTRY,PROGRAM=DFHDELIM
```

PPT Entries

Use the following table entries to define the CA-Deliver pseudo-conversational retrieval programs:

```
DFHPPT TYPE=ENTRY,PROGRAM=E23CICUX
DFHPPT TYPE=ENTRY,PROGRAM=E23CIEND
DFHPPT TYPE=ENTRY,PROGRAM=E23CINIT
DFHPPT TYPE=ENTRY,PROGRAM=E23CISRV
DFHPPT TYPE=ENTRY,PROGRAM=E23XMCIC
DFHPPT TYPE=ENTRY,PROGRAM=E23C release-number
```

Where *release-number* represents the CICS release number.

For example, E23C0330 would identify CICS Version 3, Release 3 modification 0.

Note: All programs are in assembler and should execute in 31-bit addressing mode.

Optional DCT Entries

Specify a value for the DESTID parameter in the EBCXMOPT macro in the E23XMCTR module and corresponding DCT entries to define a transient data destination for messages issued by the subtask.

Note: Specifying blank for DESTID suppresses the generation of informational messages from the subtask.

The DCT entries for a DESTID of XM23 are:

```
RMOLOG   DFHDCT TYPE=SDSCI,   FOR CICS MESSAGES AND SHUTDOWN
               BLKSIZE=250,   STATISTICS
               BUFNO=1,
               DSCNAME=RMOLOG,
               RECFORM=VARUNBM,
               RECSIZE=242,
               TYPEFLE=OUTPUT
XM22G    DFHDCT TYPE=EXTRA,
               DESTID=XM23,
               DSCNAME=RMOLOG
```

Step 3: Invoke CA-Deliver from a CICS Menu System (Optional)

If you want to invoke CA-Deliver from a user-written CICS menu system, then return to that menu system when you exit from CA-Deliver, you can do the following:

Invoke CA-Deliver from the menu system via the following CICS command:

```
EXEC CICS START TRANSID(DELIVER transaction-id)
     TERMID(EIBTRMID)
     FROM(data-area)
     LENGTH(4)
```

Where:

TRANSID (DELIVER *transaction-id*)	Specifies the CA-Deliver transaction ID
TERMID(EIBTRMID)	Specifies the terminal that a CA-Deliver transaction will communicate with
FROM (*data-area*)	Specifies the optional variable length character string The format of the data-area parameter is: *tran*, Where: *tran* — Specifies the return menu CICS transaction to be started when CA-Deliver finishes **Note:** None of the data-area parameters are required.
LENGTH (4)	Specifies the number of bytes in the data field being passed

When CA-Deliver receives control, it retrieves the four-byte return transaction ID and saves it from iteration to iteration. If the retrieve fails, CA-Deliver will retain the information that it was started directly from a terminal, not a menu system.

When CA-Deliver finishes processing, it determines whether it should return to a menu system by starting the return transaction. If there is a saved transaction ID, CA-Deliver will start the return transaction before it exits to CICS by issuing:

```
EXEC CICS START TRANSID(RETURN transaction-id)
     TERMID(EIBTRMID)
     NOCHECK
```

CICS Notes

The cross-memory CICS access involves two different address spaces as follows:

- CICS address spaces

  The user's CICS transactions and the cross memo support subtask reside here. If multiple CICS regions are used to access CA-Deliver, each CICS region will have an XMS support subtask. If you are using CICS/MRO, CA-Deliver normally runs in an AOR (application region).

- XMS address spaces

  The XMS regions must have the XMS=YES parameter to be accessible. The SUBSYS= parameter must match the E23XMCTR table entry for the CICS transaction. Multiple address spaces can be used if needed.

E23XMCTR Definitions

The E23XMCTR table must be assembled during installation to define the relationship between the CICS transaction ID and CA-Deliver, CA-View database high-level qualifiers. The table also allows the user to control the XMS subtask start-up options.

The table contains an EBCXMOPT macro to define initialization options and one SARXMTRN, RMOXMTRN or INBXMTRN macro for each CICS user transaction. The transaction definition macros also contain options for the specific database, as follows.

Parameter	Function
SUBSYS=	Routes the session to an alternate XMS subsystem ID
RECON=YES	Allows reconnection (after a CICS terminal error) at the point of exit **Note:** Do not specify RECON=YES if you use a multi-session manager that assigns LU names from a pool of names. Coding RECON=YES under these conditions could allow a user to be connected to another user's session. For more information, see the topic Multi-Session Managers Using Virtual LU Names that follows later in this section.
TIMEOUT=	Specifies how long CICS will wait for the XMS session to respond after the user enters input, in seconds We recommend that you use a value of 240 seconds (4 minutes).

CICS XMS Subtask Startup

The XMS subtask can be started automatically by **one** of the following methods:

- When the CICS region is started, the DFHPLTPI definition can be used to automatically start the XMS subtask.
- You can define a transaction for the E23CINIT program to allow for manual start up.
- You can write a CICS program to transfer control (XCTL) to E23CINIT when you want to start the XMS subtask.

Until the XMS subtask is started, the transactions referencing E23XMCIC will terminate with an error message indicating that the XMS subtask is not active.

When the CICS region is terminated the DFHPLTSD definition should be used to terminate the XMS subtask. You can manually terminate the XMS subtask through a user application program that LINKs the E23CIEND or you can use the optional transaction defined for E23CIEND for manual termination.

Note: If you want to manually terminate the XMS subtask, we recommend that you use the DFHPLTSD entry to terminate the XMS subtask. This definition is needed to clean up linkages to the XMS address spaces.

The optional transaction for program E23CIEND should be secured to prevent users from shutting down the XMS subtask.

Multi-Session Managers Using Virtual LU Names

Some products (for example, CA-TPX) can be configured to assign an LU name to a user's terminal at the time the user selects the CICS application. This means that a user can enter CICS each time with a different terminal ID. However, this can cause problems for CA-Deliver.

For example, if a user ends a session by way of the multi-session manager, or by powering off the PC, CA-Deliver does not know that the user has left. Another user could select CICS, be assigned the same LU name as the previous user, and enter CA-Deliver with the same terminal ID as the previous user. Therefore, CA-Deliver believes that there are two active users on the same terminal.

To clear an active user from a CA-Deliver terminal at terminal deletion time, the individual who is responsible for CICS support and maintenance must add the following code to the CICS Autoinstall Control Program. The default name of this program is DFHZATDX and its source is located in SDFHSAMP. The source that is shipped with CICS contains the following line:

* ==> *PUT DELETE CODE HERE*

Where * ==> *PUT DELETE CODE HERE* is located, insert the following:

```
          LOAD EP=E23XSLOC,ERRET=RETURN
          LR      R6,R0                GET EBCXSLOC ADDRESS
          ICM     R8,B'1111',0(R6)     ADDR OF MAIN CONTROL BLOCK
          BZ      RETURN               GET OUT IF NONE
          LA      R7,4(,r8)            LOOK LIKE FIRST USER BLOCK
XSU_LOOP  DS OH
          ICM     R7,B'1111',8(R7)     USER BLOCK ADDR
          BZ      RETURN               GET OUT IF DONE
          CLC     DELETE_TERM_ID,104(R7) FOR THIS TERMINAL?
          BNE     XSU_LOOP             NO
          TM      120(R7),X'01'        ACTIVE ENTRY?
          BZ      XSU_LOOP             NO
          MVI     533(R7),X'00'        CLEAR USER BLOCK FLAGS
          MVI     537(R7),X'00'        *
          MVI     120(R7),X'00'          *
          MVI     121(R7),X'00'            *
          XC      12(20,R7),12(R7)     CLEAR CONNECT ID
          B       RETURN               EXIT PROGRAM
```

This code does the following:

1. Attempts to load program E23XSLOC
   - If the load fails, this is not the region containing CA-Deliver and it exits.
   - If CA-Deliver is active in this region, the first word of E23XSLOC contains the address of the main control block. If this word is zero, CA-Deliver is not active and it exits.
2. Scans the chain of CA-Deliver user control blocks to find the terminal to be deleted
   - If it finds the terminal ID, it makes sure that the user block is in use and is active, then clears the appropriate fields.
   - If the block does not represent an active user, it continues to search the chain to the end.
   - If it gets to the end of the chain without finding the terminal ID, it exits.

Installing the IMS Online Retrieval Option

These steps provide instructions for installing the IMS online retrieval option.

Cross-Memory Requirements

This facility utilizes the cross-memory feature distributed with CA-Deliver and must be installed in conjunction with that feature. See the section Installing Cross-Memory Services later in this chapter.

The following list summarizes the steps to install the IMS Online Retrieval Option. Detailed instructions follow.

- Step 1: Code the Macros

  In this step, you code the IMS TRANSACT, PSB and APPLCTN macros.

- Step 2: Run the PSB, ACB, and SYSGEN Procedures
- Step 3: Load E23IMSUX Modules

  In this step, you move load modules to IMSVS.PGMLIB.

Important! *All JCL and macros provided in this section are provided as general examples only and must be modified for your site's systems and standards.*

Step 1: Code the Macros

Use the examples in this section as a guide as you code the following macros, and implement them in your IMS system.

- (IMS) TRANSACT macro
- PSB macros
- APPLCTN macro

TRANSACT Macro

One or more transactions must be defined for the IMS online retrieval program RMOXMIMS. Normally, only one transaction identifier would be defined, although you can define multiple transactions.

The following TRANSACT macro identifies the RMOXMIMS transaction to IMS:

```
TRANSACT NAME=E23XMIMS,SPA=(18)
```

PSB Macros

The following PSB must be generated for the E23XMIMS transaction:

```
PCB       TYPE=TP,ALTRESP=YES,MODIFY=YES
PSBGEN    PSBNAME=E23XMIMS,LANG=ASSEM,COMPAT=YES
```

APPLCTN Macro

The following APPLCTN must be generated for the RMOXMIMS transaction:

```
APPLCTN   PSB=E23XMIMS
```

Step 2: Run the PSB, ACB, and SYSGEN Procedures

Use the macros created in Step 1. Code the Macros as input for the following procedures:

```
PSBGEN
ACBGEN
IMS SYSGEN
```

Step 3: Load E23IMSUX Modules

Move load modules E23IMSUX to IMSVS.PGMLIB. Be aware that E23IMSUX is in CAI.CAILIB and must be copied to IMSVS.PGMLIB.

IMS Notes (New Version)

The new IMS/DC Transaction Program (E23XMIMS) is a replacement for the older RMOXMIMS program. The E23XMIMS does not need to be linkedited to the ASMTDLI interface program. The transaction is now conversational with a SPASIZE=18 (this can be adjusted).

If you use extended color, the SEGSIZE= may need to be increased, because extended color data streams can be a 50% increase over the monochrome datastream size. To determine the SEGSIZE= value, take the terminal that will use the interface with the largest screen size, in bytes, and apply the following formula:

```
ROWS * COLS * 1.5 = SEGSIZE
```

For example, a 3278-5 with a 27 x 132 screen size would be (27 * 132 * 1.5) = 5346. If the SEGSIZE= is too small, the terminal user will get an RC= “A6” message indicating that a message insert failed.

IMS/DC Parameter Relationships

The cross-memory IMS/DC access involves up to three different address spaces as follows:

- IMS/DC message processing region address spaces

  The user's IMS/DC transaction resides here. If multiple IMS/DC users are processing concurrently (input being processed by the XMS system), each will use a separate IMS/DC message region. IMS/DC can control the maximum number of IMS/DC transactions executing at one time.

- The XMS support subtask

  This is started when the XMSSUB=YES input parm is used when starting an XMS address space. It can be in a separate XMS address space or share the address space with XMS or VTAM sessions. The XMSSUB=YES must only be used in an XMS address space with a default subsystem ID (SUBSYS=XM23 or not specified). If multiple XMS address spaces are started, only one can have the XMSSUB=YES specified.

  Note: All IMS/DC,TSO/XMS, ISPF/XMS and CA-Roscoe/XMS sessions share the same XMS subtask.

- XMS address spaces

  The XMS regions must have the XMS=YES parameter to be accessible. The SUBSYS= parm must match the E23XMCTR table entry for the IMS/DC transaction. Multiple address spaces can be used, if needed.

E23XMCTR Definitions

The E23XMCTR table must be assembled during installation to define the relationship between IMS/DC transaction and CA-Deliver database high-level qualifiers. The table also allows the user to control the XMS subtask startup options.

The table contains an EBCXMOPT macro to define initialization options and the EBCXMTRN macro for each IMS/DC user transaction. The transaction definition macros also contain options for the specific database, as follows:

Parameter	Function
SUBSYS=	Routes the session to an alternate XMS subsystem ID
RECON=YES	Allows reconnection (after an IMS/DC terminal error) at the point of exit **Note:** Do not specify RECON=YES if you use a multi-session manager that assigns LU names from a pool of names. Coding RECON=YES under these conditions could allow a user to be connected to another user's session.
TIMEOUT=	Specifies how long IMS/DC will wait for the XMS session to respond after the user enters input, in seconds We recommended that you use a value of 240 seconds (4 minutes).

Note: The number of user connections is controlled by the SUBMAX= parameter, (not the USERMAX= parameter, which only applies when using the subtask with the CICS interface).

To control screen size manually, use the following operands. The SNA query command can also be used to determine the device characteristics.

Enter	For Terminal Type
M2	3278-2 24 x 80 default screen size
M2H	3278-2 24 x 80 highlighting
M2X	3279-2 24 x 80 color highlighting
M2C	3279-2 24 x 80 color
M3	3278-3 32 x 80
M3H	3278-3 32 x 80 highlighting
M3X	3279-3 32 x 80 color highlighting
M3C	3279-3 32 x 80 color
M4	3278-4 43 x 80 highlighting
M4H	3278-4 43 x 80 highlighting
M4X	3279-4 43 x 80 color highlighting
M4C	3279-4 43 x 80 color
M5	3278-5 27 x 132
M5H	3278-5 27 x 132 highlighting
M5X	3279-5 27 x 132 color highlighting
M5C	3279-5 27 x 132 color
M6	3290 62 x 80
M6H	3290 62 x 80 highlighting
M7	3290 31 x 160
M7H	3290 31 x 160 highlighting
M8	3290 62 x 160
M8	3290 62 x 160 highlighting

See your VTAM programmer for other modifications to your system.

Installing Cross-Memory Services

The cross-memory services interface is required for the following online interfaces:

- CICS pseudo-conversational
- IMS
- VTAM
- ISPF/cross-memory
- TSO/cross-memory
- CA-Roscoe/cross-memory

The following list summarizes the steps to install the cross-memory services. Detailed instructions follow.

- Step 1: Add the Start Procedure for the Cross-Memory Online Task

  In this step, you add the start procedure to PROCLIB for the cross-memory online task.

  This step is optional.

- Step 2: Modify, Assemble, and Link the E23XMCTR Module

  This step is optional.

- Step 3: Define Security Requirements for CA-Top Secret

Cross-Memory Services Regions

The VTAM and XMS (cross-memory services) interfaces operate in one or more cross-memory online regions. A cross-memory region can be configured as

- An XMS only region
- VTAM only region
- A combination of XMS and VTAM users

Each cross-memory region is configured with the start-up parameters provided on the PARM= of the execute statement, and with an optional SYSIN DD statement.

The REGION= specification determines the maximum number of users supported. For each megabyte of storage below the line, you can run 20 user sessions. Allow at least 500k for LSQA in the below the line storage for opening data sets and other MVS functions. Allow 200 to 400K above the line storage per user.

For example, if you had nine MB to allocate at your site, you could specify:

```
USERMAX=180
```

If more users are needed, multiple regions can be started under the same SUBSYS= value and will be chained together.

The REGION ID specified in the parameters must be different for each region, and if VTAM interface is used, a different RMOAPPL= name will be needed for each region.

Interface Parameter Requirements

The following table lists the optional and required parameters for each interface. The numbers in parenthesis are explained in the notes following the table.

Parameter	VTAM	TSO	TSO/ISPF	Roscoe	CICS	IMS/DC
CANCEL	Opt. (1)	Opt. (1)	Opt. (1)	Opt. (1)	Opt. (1)	Opt. (1)
LGNFMT	Opt. (2)					
LGNSEC	Opt. (3)	Opt. (3)	Opt. (3)	Opt. (3)	Opt. (3)	Opt. (3)
LGNPROP	Opt. (3)	Opt. (3)	Opt. (3)	Opt. (3)	Opt. (3)	Opt. (3)
LONGWAIT	Opt. (1)	Opt. (1)	Opt. (1)	Opt. (1)	Opt. (1)	Opt. (1)
MSGLVL	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.
RMOAPPL	Req.					
RMOVTDB	Opt. (4)					
SMFSESS	Opt. (5)	Opt. (5)	Opt. (5)	Opt. (5)	Opt. (5)	Opt. (5)
SUBSYS	Opt. (6)	Opt. (6)	Opt. (6)	Opt. (6)	Opt. (6)	Opt. (6)
USERMAX	Req.	Req.	Req.	Req.	Req.	Req.
VTAMPASS	Opt. (7)					
VTAMSAA	Opt. (8)					
VTMQUERY	Opt. (8)					
XMS	Opt. (9)	Opt. (10)	Opt. (10)	Opt. (10)	Opt. (10)	Opt. (10)
XMSSUB		Req. (11)	Req. (11)	Req. (11)		Req. (11)

Notes for Interface Parameter Requirements Table

The numbers next to the interface values refer to note references, as follows:

1. The CANCEL= and LONGWAIT= values work together. We recommend that you set CANCEL=YES and set LONGWAIT to a value appropriate for your site.
2. LGNFMT= should either not be specified, or should be specified as the default (LGNFMT=1), unless your session manager cannot provide logon data in the normal format. If RMOVTDB= is specified, LGNFMT=1 must be specified; any VTAM logon data will be ignored.
3. The LGNSEC= and LGNPROP= work together, and require the default RMOUSAUX and/or RMOUSXUX exits. If LGNSEC=YES is used (indicating external security signon), the LGNPROP=YES/NO will be used to control whether security violations, database opens, and jobs submitted will use the user ID (LGNPROP=YES which is the default) or will use the XMS region's user ID.

   In the online region, the CA-Deliver database is opened before logon, and will use the XMS region's user ID. The CA-Deliver database will be opened (read only) when the selection list processes entries that were archived thorough the CA-Deliver system.
4. The RMOVTDB= only affects VTAM access, and should only be used when the session manger cannot produce valid LOGON DATA. See the LGNFMT= parameter for the valid formats supported by CA-Deliver.
5. The SMFSESS= should be specified when the user needs to collect user session statistics (CPU, logon/LOGOFF times, storage used, and so on).

6. The SUBSYS= should only be specified when you are using a non-default subsystem ID under MVS. The default is release specific; it does not require JCL/PARM changes when you are converting to a new software release.
7. VTAMPASS= should only be specified if you will be running a multi-region VTAM interface. The other VTAM regions must specify the same parameters (LGNFMT= RMOVDTB=, VTMQUERY=, VTAMSAA=), or the interface may react in unpredictable ways.
8. VTMQUERY= should either be specified as NORM (normal) or allowed to default to that value. VTMQUERY=NONE will work, but CA-Deliver cannot detect color/high-light terminal attributes so color/high-light support will be shut off. VTAMSAA=NO should be used if terminals cannot support the SNA QUERY LIST command, such as the older 3270/3290 devices and some older PC/3270 emulators.
9. XMS=NO should be used when you are going to be using only the VTAM interface.
10. XMS=YES (the default) must be used to provide support for these interfaces.
11. XMSSUB=YES must be specified to provide support for these interfaces. The XMSSUB=YES must reside in an XMS region with a default SUBSYS= value. If multiple XMS regions are started, only one region can have XMSSUB=YES. The other regions will still be available for user sessions, but their traffic will be routed through the region specifying XMSSUB=YES.

    If you terminate the region with XMSSUB=YES, all sessions using the subtask will fail (that is, all TSO/XMS, ISPF/XMS, Roscoe/XMS, IMS/DC regions). CICS has router SUBTASK in its region, and does not use the XMSSUB=YES function.

Step 1: Add the Start Procedure for the Cross-Memory Online Task

Add the following start-procedure JCL for the cross-memory online retrieval task as member CAHB17DR to SYS1.PROCLIB. Sample JCL for this proc is provided in member CAHC23DR of CAI.CAIPROC.

```
//DLVRDRV   EXEC PGM=E23DRV,REGION=1024K,TIME=1440,
//          PARM=('XMSSYS01,RMOAPPL=RMOVTAM,USERMAX=30,VTAMPASS=YES')
//*
//STEPLIB DD DSN=&CAI.CAILIB,DISP=SHR
//*
//SYSPRINT DD SYSOUT=A <--MESSAGE LOG (NEW, OUTPUT REQUIRED WHEN SUBMITTING
//*                       DUMP TO COMPUTER ASSOCIATES TECH SUPPORT)
//*
//RMOLOG   DD SYSOUT=A <--MESSAGE LOG (NEW, OUTPUT REQUIRED WHEN
//*                       SUBMITTING DUMP TO COMPUTER ASSOCIATES TECH
//*                       SUPPORT) ONLY USED WHEN XMSSUB=YES)
//*
//EBCUDUMP DD SYSOUT=A <--INTERNAL DUMP OUTPUT (NEW, OUTPUT REQUIRED WHEN
//*                       SUBMITTING DUMP TO COMPUTER ASSOCIATES TECH SUPPORT)
//*
//*
//SYSUDUMP DD SYSOUT=A <--MVS DUMP OUTPUT (OPTIONAL, MVS DUMP CAN BE ROUTED
//*                       WITH SYSMDUMP OR SYSABEND ALSO)
//*                       WARNING!!!! ABENDAID DUMPS ARE OF NO USE CORRECTING
//*                       PROBLEMS WITH RMOXMS. YOU MUST ALWAYS SUPPRESS
//*                       ABENDAID IF YOU HAVE IT INSTALLED FOR THIS REGION.
//*
//SYSIN    DD DSN=CAI.PPOPTION(PARMXMS),DISP=SHR
```

SYSIN Statements for Parameters

The REGIONID parameter is positional, and must be specified in the PARM= statement of the cross-memory task JCL. You can use SYSIN DD statements to specify the other cross-memory parameters.

If you are going to run multiple regions, you should specify the following parameters in the PARM= statement:

```
SUBSYS=
RMOAPPL=
XMS=
```

You can specify the rest of the parameters with SYSIN DD statements. If you place the SYSIN statements in a PDS member, you can alter the parameters without shutting down the cross-memory region. Be aware that the parameters do not take effect until the next time the region is shut down and restarted.

Start Procedure Parameters

XMSSYS01 (in the PARM statement) specifies the 1–8 character REGIONID. The REGIONID is positional—it must be the first value of the PARM= statement. This value is used to define separate cross-memory regions attached to one MVS subsystem (specified by the SUBSYS parameter). Each separate RMOXMS region has its own REGIONID. We suggest using the PROC name of the cross-memory-started task.

Parameter	Description
CANCEL= YES|NO	Indicates **one** of the following: ■ CANCEL=YES specifies that a user who is inactive (no commands entered) for the time specified by the LONGWAIT parameter will be canceled, and the session will be terminated. With CANCEL=YES, all users will be automatically canceled if the region is shut down by an operator command. ■ CANCEL=NO specifies that the connection will not be canceled, and the user status will change to LONGWAIT. The default is NO.
LGNFMT=*n*	Specifies the format of the data parameter when logging on to a VTAM region where *n* is a digit (1–3), as follows: 1 ***database//userid/password/newpass*** 2 ***userID/password/newpass/database/mode*** 3 ***database/mode*** The default is 1.
LGNPROP= YES|NO	Indicates whether the CA-Deliver user ID should be passed to MVS for propagation during submit processing This parameter is only valid if LGNSEC=YES is specified. The default is YES.
LGNSEC=NO	**Note:** This option is not for use with CA-Deliver and should be specified as NO.
LONGWAIT=*nn*	Specifies the number of minutes of inactivity (no commands entered) before a user's session is terminated The CANCEL parameter must be YES for the session to be terminated. The default is 15 minutes.

Parameter	Description
MSGLVL=CRIT | ACTN | NORM | INFO | TRCE	Indicates the level of message to be written to the started task job log Unless suppressed, the CRITICAL and ACTION messages are also written to the console. This parameter does not suppress messages from the SYSPRINT log. The following settings cause the following types of messages to be displayed: **Level** — **Message** CRIT — Displays critical messages ACTN — Displays critical and action messages NORM — Displays critical, action, and normal messages The default is NORM. INFO — Displays all but trace messages TRCE — Displays all messages
RMOAPPL=*applname*	Specifies the RMOVTAM APPLID which provides VTAM user signon capability The default is RMOVTAM.
RMOVTDB=*high-level.databasename*	Specifies that all RMOVTAM interface users must use this database high-level qualifier Typically you would not specify this value, and allow the user to specify which database to access when s/he logs on. When this parameter is specified, any database specified with the VTAM logon command at the time of logon is ignored.
SMFSESS=*nnn*	Specifies whether SMF records will be collected for the cross-memory sessions The EBCSMFU1 macro documents the records available. The default is zero—no record collection.

Parameter	Description
SUBSYS=*name*	Specifies the four-character MVS subsystem, which must match the value in the E23XMCTR table The SUBSYS parameter does not apply to VTAM or IMS interface users. The default is XM23.
USERMAX=*nn*	Specifies the maximum number of sessions to be allowed USERMAX should be set to allow 20 users per MB of below the line region memory. For example, if REGION=8M, USERMAX should be 160 or less. The default is 10 sessions.
VTAMPASS= YES|NO	Indicates whether signon requests can be passed to other regions in this subsystem when this region cannot accept the request Possible reasons for not being able to accept a sign on request are that the USERMAX parameter has been exceeded, or a SUSPEND operator command has been issued. If VTAMPASS=YES is specified, include PASS in the AUTH value on the APPL statement in the VTAM definition. If you want to run multiple regions, VTAMPASS must be YES. The default is NO.
VTMQUERY= ALL|NORM| NONE	Indicates whether the VTAM interface will QUERY terminals with dynamic log modes to determine the alternate screen size This parameter should be used only to query VTAM terminals that support SNA QUERY commands, and do not have an alternate screen size defined in their logmode.

Parameter	Description
VTMQUERY= ALL|NORM|NONE *(Continued)*	Level — Message ALL — Queries all terminals NORM — Queries the terminal if the bind image indicates it is a VTAM QUERY terminal, and there is no alternate screen size defined The default is NORM. NONE — Will not query any terminals (and color will not be supported)
VTAMSAA= YES|NO	Indicates whether all terminals are SAA compliant If you have older terminals that cannot support SAA (3290 terminals for example), and they will be connecting with logmodes that indicate CA-Deliver should query their alternate screen size, you must specify VTAMSAA=NO or these terminals will not be able to log onto the RMOVTAM interface. VTAMSAA=NO causes more overhead in logging on terminals than can be queried, and should only be used when required.
XMS=YES|NO	Indicates whether cross-memory users will be allowed to sign on to the region Set XMS=NO if this is a VTAM only region, and cross-memory is not to be supported. If XMS=NO, there should be a VTAM ACB name coded in the RMOAPPL= parameter. The default is YES.
XMSSUB= YES|NO	XMSSUB=YES is required for ISPF cross-memory, TSO cross-memory, and CA-Roscoe cross-memory sessions; all other interface users should set XMSSUB=NO The default is NO.

RMOLOG DD Statement (Optional)

The optional RMOLOG DD statement is used to specify where to write the log of user subtask messages. This output is critical to resolving user subtask ABENDs, and should be submitted to CA-Deliver technical support along with the region or task dump created with an ABEND.

SYSPRINT DD Statement (Optional)

The optional SYSPRINT DD statement is used to specify where to write the log of cross-memory (RMOXMS) messages. This output is critical to resolving RMOXMS ABENDs, and should be submitted to Computer Associates Technical Support along with the region or task dump created with an ABEND.

EBCUDUMP DD Statement

The EBCUDUMP DD statement is required, and is used to specify where to write a special dump of CA-Deliver control blocks that do not appear in normal MVS dump output. This output is critical to resolving RMOXMS ABENDs, and should be submitted to Computer Associates Technical Support along with the region or task dump created with an ABEND.

Note: On ABEND Output, only regular MVS dump output should be collected. Output from dump compression and analysis programs is not helpful to technical support—you may be required to recreate the dump. Acceptable types include SYSUDUMP, SYSMDUMP, or SYSABEND output, in print-record format. IPCS/SVC dumps and CICS transaction or region dumps are also acceptable, but should be formatted for printing before they are placed on the tape.

The RMOXMS region uses the operator facility to abort a user's task for various problems, such as a LONGWAIT time out, a VTAM I/O error, or a detected internal error. These appear in the log followed by a U0522 ABEND of the user subtask, and no dump is generated.

STEPLIB for This Job

The action you take in this step depends on what you did during the base-product installation—specifically, whether you authorized the program load library or copied the modules to a system authorized library.

Be aware of the following before running this job:

- If the CA-Deliver load modules were copied to an authorized library other than one of the linklist libraries, you must change the data set name on the STEPLIB DD statement.
- If the load modules were copied to a linklist library, you must remove the STEPLIB DD statement.

If you have CA-View installed, you must consider the following before running the job above:

- If the CA-Deliver load modules were copied to an authorized library other than one of the linklist libraries, concatenate the CA-View load library as a second STEPLIB after the CA-Deliver load library in the STEPLIB DD statement.
- If the load modules were copied to a linklist library, do nothing

Step 2: Modify, Assemble, and Link the E23XMCTR Module

The E23XMCTR module defines the relationship between a transaction identifier and the CA-Deliver database, and session attributes. In addition, the execution options for the cross-memory subtask system are also defined in this module.

A sample EBCXMCTR source program can be found in the source library, unloaded as part of the CA-Deliver installation. The source is comprised of one or more assembler macros.

Format of the Macros

The first statement defines the system options and has the following format:

```
EBCXMOPT DESTID=dest,SRVTRAN=transaction,MSGLVL=level,
X
      DESTEID=CICS-dest,LOGWAIT=timout-val,
X
      USERMAX=user-number,WAITCNT=maxcount
```

The next group of statements are for each transaction and or database to be accessed; they have the following format:

```
EBCXMTRN TRANID=tranid,INDEX=high-level-name,TIMEOUT=sec,
X
       SUBSYS=subsysid,RECON=yes|no,
X
       MSGSUPP=yes|no
```

The last statement generates the transaction table:

```
EBCXMTRN TYPE=GEN
```

Finally, an Assembler END statement is needed to end the macro:

```
END
```

EBCXMOPT Statement Parameters

The following parameters are specified in the EBCXMOPT statement:

Parameter	Description
DESTID=*dest*	Specifies the transient data destination to which messages from the CICS subtask are sent Supply a DESTID to indicate that a queue (typically an extra partitioned queue that points to a SYSOUT data definition name) is defined. Leave DESTID blank to specify that messages from the CICS subtask are not to be captured.

Parameter	Description	
SRVTRAN=*transaction*	Specifies the transaction defined for E23CISRV that is initiated as a service transaction when CA-Deliver CICS is initialized The default is XM23.	
MSGLVL=CRIT | ACTN | NORM | INFO | TRCE	Indicates the level of messages to display on the console The following settings cause the following types of messages to be displayed:	
	Level	**Message**
	CRIT	Displays only critical messages
	ACTN	Displays only critical and action messages
	NORM	Displays only critical, action, and normal messages The default is NORM.
	INFO	Displays all but trace messages
	TRCE	Displays all messages
LOGWAIT=*nnn*	Specifies the amount of time a user is to wait to log on before the user's session times out The default is 200 seconds.	
SGNCNT	Controls the number of logon control blocks allocated These blocks are only used during the logon process. They are then reused and made available to other users attempting to logon. When increasing the SGNCNT value, be aware that 256 bytes of ECSA are needed each time SGNCNT is increased by 1. Typically, 5 logon blocks are enough. The default is 5.	
SUBMAX=*nn*	Specifies the total number of user control blocks that are allocated when a cross-memory subtask (other than CICS) is initialized The default is 500.	

Parameter	Description
USERMAX=*nn*	Specifies the number of user control blocks that are allocated when CICS is initialized The default is 500.
WAITCNT=*nnn*	Specifies the number of sessions for which the subtask can wait The default is 256.
IMSMENU	Specifies the IMS/DC conversational menu to transfer to when CA-Deliver terminates If not specified, the transaction in the SPA will be set to blanks.
IMSSPA	Specifies the size of the IMS/DC SPA The SPA size must be at least 18, but cannot exceed 100. The default is 18.

EBCXMTRN Statement Parameters

The following parameters are specified in the EBCXMTRN statement(s):

Parameter	Description
TRANID=*tranid*	Specifies the transaction identifier for CICS For TSO, ISPF, and CA-Roscoe (the cross-memory drivers), TRANID is ignored, and the first instance of the database high-level qualifier is used.
INDEX=*high-level-name*	Specifies the high-level name of the CA-Deliver database

Parameter	Description
TIMEOUT=*nnn*	Specifies the time out value, in seconds, to be used by this transaction This value is used as the maximum wait time for a response from the RMOXMS started task. This value must be greater than zero and less than 9999 seconds. TIMEOUT=NO specifies that you do not want any time out to occur. The default is 240 seconds (four minutes).
SUBSYS=*subsys-id*	Specifies a four-character MVS subsystem name, which must match the value specified for SUBSYS in the cross-memory started task JCL Each subsystem can support multiple databases and/or CICS/IMS regions. The default is XM23. There is no need to change the default unless you wish to bring up multiple cross-memory regions and separate transactions for testing or performance reasons. (This subsystem name is not defined in SYS1.PARMLIB.)
RECON=YES|NO	Indicates whether a user can reconnect to a lost session The default is NO.
MSGSUPP=YES|NO	Indicates whether a termination message is displayed when a session is terminated by a user The default is NO; this does not suppress messages generated from abnormal termination.

The statements follow standard assembler coding conventions.

Example of Coding the Macros

Assume that two CA-Deliver systems have been created.

The databases for the two systems have high-level names of RMO.SYSTEM1 and RMO.SYSTEM2. A user must enter transaction identifier RM1 for the first system and RM2 for the second. The source for program E23XMCTR contains the following control statements:

```
EBCXMOPT MSGLVL=CRIT,USERMAX=50
EBCXMTRN TRANID=RM1,INDEX=RMO.SYSTEM1
EBCXMTRN TRANID=RM2,INDEX=RMO.SYSTEM2
EBCXMTRN TYPE=GEN
END
```

EBCXMTRN TYPE=GEN must be the last statement before the END. This statement causes the EBCXMCTR CSECT to be generated.

Sample JCL

Sample JCL for this job is provided in member HC23XCTR of CAI.SAMPJCL. This job provides an SMP/E USERMOD which assembles and links an installation-dependent version of E23XMCTR.

Parameters for Online Interfaces

The E23XMCTR table defines the way linkages between the online drivers and the XMS region are established. Some of the parameters are used only in specific environments and others are used in all environments.

The following table indicates which parameter effects each online interface. Be aware that the VTAM interface does not use this table and has no applicable parameters. The numbers in parenthesis are explained in the notes in the table that follows.

Parameter	TSO	TSO/ISPF	CA-Roscoe	CICS	IMS/DC
DESTID				Opt. (1)	
SRVTRAN				Opt. (2)	
MSGLVL	Opt.	Opt.	Opt.	Opt.	Opt.
LOGWAIT	Opt.	Opt.	Opt.	Opt.	Opt.
SUBMAX	Opt. (3)	Opt. (3)	Opt. (3)		Opt. (3)
USERMAX				Opt. (4)	
WAITCNT	Opt. (5)	Opt. (5)	Opt. (5)	Opt. (5)	Opt. (5)
IMSMENU					Opt. (6)
IMSSPA					Opt. (7)

Notes on Cross-Memory Service Parameters

The numbers next to the table values refer to note references, as follows:

1. The DESTID= specifies an optional CICS destination to which message output will be written.
2. The SRVTRAN= specifies the service transaction ID. This transaction is required for CICS, but you can use the default service transaction name XM23.
3. The SUBMAX= controls that maximum connections that can be managed by the subtask program. The default is 10, which should be changed for most users. Each ISPF/XMS, TSO/XMS, Roscoe/XMS, or IMS/DC user connects through the XMS subtask and the value defines the total number of users that can be connected from these interfaces at one time.
4. The USERMAX= controls that maximum connections that can be managed by the subtask program. The default is 500, which should be enough for most users. Each CICS region can manage this number of sessions. To increase the value, you must restart the CICS or XMS region that owns the subtask.

5. The WAITCNT= value should remain at the default value at this time. Major performance problems will occur if you set this to a lower value. Note that this value cannot be set above 255.
6. IMSMENU= specifies the IMS/DC conversational menu to transfer to when CA-Deliver ends. If not specified, the SPA TRAN will be set to blank upon termination.
7. IMSSPA= specifies the length of the IMS/DC spa to be used (IMS/DC only). It allows adjustment to the spa size so CA-Deliver can transfer to user transactions, IMS/DC requires the spa size to remain the same. The spa size must be at least 18 bytes, and although you can specify a spa size of up to 100 bytes, only the first 18 bytes will be used.

Step 3: Define Security Requirements for CA-Top Secret

1. Rename existing facility in the facility matrix table:

   ```
   user1=NAME=RMOXMS
   ```

   Also make sure that the correct PGMname is defined for the new facility, where PGMname will be the 3-character program name that starts RMOXMS.
2. Create region ACID for the facility:

   ```
   TSS CRE(rmoxms) pass(nopw,0) type(user) dept(dept)
   mastfac(rmoxms) NODSNCHK NORESCHK NOVOLCHK NOLCFCHK NOSUBCHK
   ```
3. Define the RMOXMS STC to the TSS STC record:

   ```
   TSS ADD(STC) PROC(rmoxms) ACID(rmoxms)
   ```
4. Give access to ACIDs that you want to be able to sign onto this facility:

   ```
   TSS ADD(ACID) FAC(rmoxms)
   ```

Chapter 7

Installing CA-Deliver Features

This chapter explains how to install the following CA-Deliver features:

- Changing the date format on panels
- Setting up the CA-11 interface
- Setting up CA-11 to run with CA-Deliver
- The CA-GSS (Global Subsystem) interface
- Installing the CA-Deliver host command environment Into CA-GSS

Changing the Date Format Shown on Panels

The date format, date separator character, and time separator character are specified in the RMODFMT load module. The date format is specified in the first byte (hex location 00) of the load module as a hexadecimal value of 00 through 07 as follows:

Date Format	Hexadecimal Value
MM/DD/YYYY (default)	00
DD/MM/YYYY	01
YYYY/MM/DD	02
YYYY/DD/MM	03

Date Format	Hexadecimal Value
MM/DD/YY	04
DD/MM/YY	05
YY/MM/DD	06
YY/DD/MM	07

A date separator character can be assigned in the second byte (hex location 01) of the load module. The default data separator is a slash (/).

A time separator character can be assigned in the third byte (hex location 03) of the load module. The default time separator is a colon (:).

The date and time separator characters should be printable characters that will not be confused with syntactical data, such as a comma or a quotation mark.

Use USERMOD HB17DFMT in CAI.SAMPJCL to set values in RMODFMT. The REP statements in the AMASPZAP input should be changed to the values that you want. For example, if you selected MM/DD/YY for your default format, a dash (-) for the date separator, and no change for the time separator, the AMASPZAP statements in HB17DFMT should be changed as follows:

From:

```
++ZAP(RMODFMT).
  NAME RMODFMT RMODFMT
  VER  0000  0061,7A00
  REP  0000  0061,7A00
$$
```

To:

```
++ZAP(RMODFMT).
  NAME RMODFMT RMODFMT
  VER  0000  0061,7A00
  REP  0000  0460,7A00
 $$
```

The first field in the VER and REP statements contains the location in the module that is being changed. In this case, it is 0000. Do not change this value.

The second field contains four hexadecimal values separated into groups of two by a comma.

- The VER statement verifies that the values in this statement are the same as the values found at location 0000 in RMODFMT.
- The REP statement gives the values that will replace the data at location 0000 in RMODFMT.

In the example above:

- The first position in field 2 in the REP statement was changed from 00 to 04 to specify the MM/DD/YY date format as defined in the table above.
- The second position was changed from 61 (/) to 60 (-).
- The third position is unchanged since we are not changing the time separator in this example.
- The fourth position is never changed.

Note: If you want to make a change to RMODFMT, you must reapply this USERMOD.

Setting up the CA-11 Interface

In order to set up an interface between CA-11 and CA-Deliver, one or more of the following conditions should exist:

- You use two or more CA-Deliver databases.
- CA-Deliver and CA-11 run on different operating systems and use the CA-Deliver network input feature.
- Another vendor program is installed which does not allow you to specify the CA-Deliver database name through parameters on the EXEC card.
- You use both CA-Deliver and CA-Balancing.

To set up an interface between CA-11 and CA-Deliver, do the following:

1. Create a sequential data set to specify parameters for the CA-Deliver and CA-11 interface program.

   In this data set, specify the names of the CA-Deliver databases and the destination on which CA-11 runs.

2. If CA-11 is executing on a different operating system, specify the name of this data set in the RMOPARMS DD statement when setting up the CA-11 procedure catalog for CA-Deliver.

   In this data set, specify the subsystem name of the CA-XPErtware that manages the CA-Balancing database (if CA-Balancing is used with CA-Deliver).

Data Set Attributes

The following attributes are needed to specify the data set referenced in the RMOPARMS DD statement:

- DSORG=PS
- RECFM=FB
- LRECL=80

Data Set Statements

In this data set, specify the following two JCL statements:

- One or more names of the CA-Deliver databases that are used.
- The name of the JES2 or JES3 destination on which CA-11 runs, if CA-11 is executing on a different operating system.

Syntax of Control Statements in the Data Set

The syntax of the statement used to specify the name of a CA-Deliver database is as follows:

```
NAME high-level-name
```

Where *high-level-name* represents the name of the CA-Deliver database.

The syntax of the statement used to specify the name of the destination on which CA-11 runs is as follows:

```
FROM-NODE NAME=JES2/JES3-dest-where-CA-11-runs
```

Where *JES2/JES3-dest-where-CA-11-runs* represents the name of the originating destination on which CA-11 runs.

These control statements are also described in the *CA-Deliver Reference Guide*.

If there are identical job definitions in different CA-Deliver databases, maintain the order of the CA-Deliver databases in the data set referenced in the RMOPARMS DD statement for your entire execution.

Setting up CA-11 to Run With CA-Deliver

To use CA-11 with CA-Deliver and store reports in CA-View, use CA-View Release 1.6 or higher and CA-Deliver Release 1.6 or higher, then do the following:

1. Change the program name in the first step of your JCL for the CA-11 job:

```
//STEP1    EXEC    PGM=U11RMS,PARM='U11RMS-parms', or,
//STEP1    EXEC    PGM=UCC11RMS,PARM='UCC11RMS-parms'
```

2. Change the utility name RMORMS:

```
//STEP1    EXEC    PGM=RMORMS,PARM='U11RMS-parms', or,
//STEP1    EXEC    PGM=RMORMS,PARM='UCC11RMS-parms'
```

   If the program in the CA-11 JCL shown above is anything other than U11RMS, or if you have any program that wraps around the CA-11 program, contact Computer Associates Technical Support.

   Note: For a description of RMORMS, see the *CA-Deliver System Reference Guide*.

3. Do **one** of the following:

   - If two or more CA-Deliver databases are used or CA-Balancing is used, add the following RMOPARMS DD data set name statement to the JCL for the CA-11 job:

```
//RMSPARMS    DD    DSN=sequential-data set-name
```

   - If only one is used, insert the name of the single CA-Deliver database as a parameter in front of the CA-11 program name parameters:

```
//STEP1    EXEC    PGM=RMORMS,PARM='RMO-db;U11RMS-parms',
or,
//STEP1    EXEC    PGM=RMORMS,PARM='RMO-db;UCC11RMS-parms'
```

4. Determine if CA-Deliver executes on a destination other than CA-11 and if the CA-Deliver network input feature is used, then do **one** of the following:

   - If the answer is yes to one of the above, go to Step 5.
   - If the answer is no to both of the above, go to Step 9.

5. Insert the following statement on the last line of the RMOPARMS data set:

   ```
   FROM-NODE JES2/JES3-dest-where-CA-11-runs
   ```

6. Insert the following DD statement in the first step (the RMORMS Step) of your JCL:

   ```
   //RMONETn  DD  SYSOUT=(x,,form-name),DEST=dest-where-RMO-runs
   ```

   Note: CA-Deliver uses the output from this DD statement to determine whether the job that is currently running is a rerun job.

7. Set the initialization parameter NETRERUN to YES.

8. Load the CA-Deliver modules to the destination where CA-11 will execute:

   - E23SG
   - E23SDIM
   - E23SVC35
   - RMORCH
   - RMORMS

9. Set the initialization parameter MAXHIST to the maximum number of generations expected to rerun jobs.

   To back out only reports produced within the last five generations, set MAXHIST=5.

   Note: If the historical data report that you want to rerun has been purged, CA-Deliver cannot delete or flag these reports. You must manually delete these reports. For more information about deleting reports manually, see the *CA-Deliver Administrator Guide*.

10. To rerun jobs that produce bundled reports, use the fields LATE, INTERVAL, WAIT, and BUNDLE CONFIRM on the Bundle Definition Attributes panel and the Print Bundle Now tabular command P on the Active Bundle List panel to specify when and how the bundles are to be produced.

    For a description of the Bundle Definition Attributes Panel, Active Bundle List panel, and the Print Bundle Now tabular command P, see the *CA-Deliver Administrator Guide*.

    Note: CA-Deliver cannot delete or flag bundle holding copies if bundles have already been queued for printing.

    The RMORMS utility transmits the current rerun information from the originating system on which CA-Deliver is not installed to the receiving systems.

11. Review the RMSWARN initialization parameter in the *CA-Deliver Reference Guide*. This parameter affects how RMORMS will react when the CA-Deliver started task is not active.

Installing the Optional Interface to CA-GSS

To install the optional interface between CA-Deliver and CA-GSS (Global Subsystem), follow the steps outlined in this section. This optional interface allows page and form definition data (PAGEDEF and FORMDEF) to be acquired via network input for users who do **not** have IBM SAPI support.

CA-GSS Requirements

The CA-Command and CA-GSS products and their respective documentation are required to install the optional interface to CA-GSS.

1. Install CA-GSS as described in the *CA-GSS for MVS Installation Guide*.
2. Install the ADDRESS environment for command as described in the *CA-GSS for MVS Installation Guide*.
3. Add the ISET control card to the CA-GSS startup parameters.

   ```
   ISETSAR xxx.nnn.SARIMOD      LOAD
   ```

4. Start CA-GSS.

   The SAR service initializes automatically when CA-GSS is started.

For more information about monitoring and controlling the server IMOD, see the section on the SERVER operator command in the *CA-GSS for MVS Installation Guide*.

When the server is started at initialization, it is assigned the user ID of the GSS/ISERVE address space; this may be a consideration for CA-Command's API.

If the server is terminated and restarted due to a request from CA-View and CA-Deliver, the server is run under the user ID that belongs to the requesting CA-View/CA-Deliver task. (This may cause problems if the user ID is not known to the CA-Command product.)

Allocating and Loading the IMOD File From Tape

The JCL, located in HB17IMOD in CAI.SAMPJCL, allocates and loads the IMOD file from tape.

Installing the CA-Deliver Host Command Environment Into CA-GSS

CA-GSS (Global Subsystem) for MVS Release 2.6 is required for this installation and MVS/TSO must be running. To install the CA-Deliver host command environment interface module into CA-GSS, do the following:

1. Ensure that CA-GSS is installed on your system.
2. Look at the data set and member that are allocated to the PARMLIB DDNAME in CA-GSS.
3. Edit the data set/member and add the following line:

   ```
   ADDRESS DELIVER RMOINTF
   ```

4. Add the CA-Deliver load library to the concatenation of the CA-GSS command procedure.
5. Restart CA-GSS.

Appendix

A

Installation Worksheets

This appendix contains the following:

- Installation Worksheet
- Initialization Parameter Worksheet
- CA-Deliver Started Task Worksheet

Installation Worksheet

The following worksheet contains the SMP and system-related items of the installation. Fill out this worksheet carefully and retain this information for future reference.

Step 1: Global Install Parameters

- Enter \ and your standard SYSOUT class for Computer Associates product installs and SMP output.

  Default: SYSOUT=_____ SYSOUT=_____

- Enter the installation **product tape** VOLSER.

  Default: TAPVOL=_____ TAPVOL=_____

- Enter the name for the CA-Deliver started task.

  Default: STCNAM=CAHB17ST STCNAM=_____

Step 2: Data Set Qualifiers and SMP Parameters

- Enter the data set high-level qualifiers you plan to assign to the common distribution, target, and SMP libraries.

  Default: CAI='CAI.' CAI=_____

  Default: DSHLQ='CAI.' DSHLQ=_____

- Enter your generic unit name for permanent work DASD volumes.

  Default: PERMDA=SYSDA PERMDA=_____

- Enter your generic unit name for temporary work DASD volumes.

  Default: WORK=SYSDA WORK=_____

- Enter your generic unit name for the tape drives.

  Default: TAPE=TAPE TAPE=_____

- Enter the DASD pack you plan to use as your SMP temporary library volume.

  Default: TLIB=DUMSER TLIB=_____

Initialization Parameter Worksheet

Parameter	Value
ARCH	
ARCH1	
ARCH2	
ARCH3	
ARCH4	
ARCH5	
ARCH6	
ARCH7	
ARCH8	
ARCH9	
AUTOACT	
BANNER	
BNDLBNR1	
BNDLBNR2	
BNDLBNR3	
BNDLCLS	
BNDLCONF	
BNDLDEST	

Parameter	Value
BNDLINT	
BNDLMOUT	
BNDLSCAN	
BNDLWAIT	
BOT	
CCX	
DAYS	
FREEALL	
GSS	
HDETAIL	
JES2LVL	
JOBCLSL	
LOGO	
MAXHIST	
MAXJESQ	
NAME	
NETCLSL	
NETDEST	
NETFORM	
NETONLY	

Parameter	Value
OFFPW	
OUTPUT	
PRBTASK	
REDISP	
RPTENQ	
SAR	
SETCMD	
SMF	
SMF30	
START	
STKCHNN	
STKMODE	
STKNAME*n* *(1, 2, 3, 4, 5)*	
STOPPW	
SYSCLSL	
SYSID	
TEXT	
TIME	
WARNING	

CA-Deliver Started Task Worksheet

Use this worksheet to list the data set names used in various steps of the install process.

Initialization Parameter

DDname: RMOPARMS

Data set name: _____

Job Name Translation Control

DDname: RMOJTAB

Data set name: _____

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